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Current Planning Division

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Energy Division

COUNTY OF MAUI
PLANNING DEPARTMENT
250 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

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OFC. OF ENVIRONMENTAL QUALITY CONTROL

May 29, 1992

Dr. Brian Choy, Director
Office of Environmental Quality Control
220 South King Street
Fourth Floor
Honolulu, Hawaii 96813

Dear Dr. Choy:

Re: Environmental Assessment Determination on Shoreline Setback Variance for the Construction of the Hayashi Beachwall at the Sugar Cove and Cyrus Monroe Properties at TMK: 3-8-02: 3 and 4, Spreckelsville, Maui. (92/EA-001)

At its April 20, 1992 meeting the Maui Planning Commission reviewed the above request and determined that the project will not have any significant impact on the environment and that an environmental impact statement is not required. Further, the attached report was adopted as the Negative Declaration.

If additional clarification is required, please contact Clayton Yoshida of my office.

Very truly yours,

BRIAN MISKAE
Planning Director

encl.

cc: Paul Mancini, Esq.
Colleen Suyama
Clayton Yoshida, AICP

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1992-06-23-MP-FEA-Sugar Cove Condominium & Monroe Residence for Shoreline Protection, Spreckelsville, Paia, Maui

CHRIS HART

LANDSCAPE ARCHITECTURE ■ PLANNING

Environmental Assessment
For
Shoreline Protection

Sugar Cove Condominium Complex
And Monroe Residence

Spreckelsville, Paia, Maui

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1.0 SUMMARY

The proposed action consists of the construction of a Hayashi beachwall 620 feet in length. It is intended to provide storm wave protection for the Sugar Cove Condominium Complex and the adjacent Monroe property. The natural rock Hayashi beachwall will replace the tire gabions which have served as an interim manmade shore protection measure for the Sugar Cove Condominium Complex. In additon, the natural rock Hayashi beachwall will cover and protect from further erosion the lithified clay layer which has been the stable base for beach sand accumulation in the past.

This environmental assessment has been prepared as part of the permit application requirements for the County of Maui's Special Management Area permit, Shoreline Setback Variance, and the State of Hawaii's Conservation District Use Application. The environmental assessment will also be referenced for any subsequent permits which may be required for construction of shoreline protection fronting the Sugar Cove Condominium Complex and the adjacent Monroe residence.

The project site is located at Tax Map Keys 3-8-02:3 and 3-8-02:4 in Spreckelsville, Paia, Maui. The shoreline fronting the Sugar Cove Condominium Complex and Monroe residence has eroded about 40 feet since 1972. The scarp is now within 13 feet of one of Sugar Cove's shorefront buildings and within 20 feet of the other two shorefront buildings, posing an imminent threat to these buildings from storm waves. While the Monroe property shorefront has also receded, the residences are located further back from the cove and are protected by dunes, thus do not face immediate structural danger by storm waves. (For a supplemental overview of the problem of beach erosion at Sugar Cove and the proposal to construct an environmentally sensitive Hayashi beachwall, please refer to the companion document "Expanded Shoreline History and Photographic Analysis.")

The proposed Hayashi beachwall would provide shore protection required by the Sugar Cove Condominium Complex and Monroe residence during periods of severe wave action and erosion. The proposed Hayashi beachwall should not alter the overall coastal processes of the area.

Short-term environmental impacts associated with the construction phase of the project include minor siltation of nearshore waters, impacts associated with the possible encroachment of heavy equipment on the nearshore environment, and limited beach access during construction.

There are no significant probable long-term adverse environmental impacts associated with construction of the Hayashi beachwall. Rather, the Hayashi beachwall should serve to stabilize this region of high erosion. Stabilizing the beach slope will result in reduced siltation in nearshore waters, thus may serve to enhance water quality.

Alternatives to the proposed action include: no action, breakwaters, jetties and groins, beach nourishment, seawalls and bulkheads. The proposed Hayashi beachwall is considered the most viable alternative.

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Site Location and Description

The site is located at Tax Map Keys 3-8-02:3 and 3-8-02:4 in Spreckelsville, Paia, Maui, on the north side of Maui Isthmus. The shoreline of the Sugar Cove Condominium Complex extends about 500 feet in a roughly east- west direction, while the beach fronting the Monroe property continues to the west a further 120 feet to a rocky headland. At the east end of the property, an old stone and masonry seawall extends from the Sugar Cove shoreline some distance into the tidal zone. This wall protects the adjacent property. It is apparent that the overall cove extended in a continuous beach to an eastern rocky headland before the adjacent wall was ~~was~~ constructed at least 50 years ago.

The shoreline is located within the County Administered Special Management Area. The proposed Hayashi beachwall will extend into the State Resource Conservation District Subzone. Figure 1 shows the site location, Figure 2 shows a vicinity map, Figure 3 shows the site plan for the Sugar Cove Condominium Complex, while the Monroe's site plan is shown on Figure 4.

2.2 Objectives of the Proposed Action

This project proposes to provide shoreline protection for about 500 linear feet of beach fronting the Sugar Cove Condominium and about 120 linear feet of beach fronting the adjoining property on the westerly boundary of the Sugar Cove property. This adjoining property is owned by Mr. Cyrus Monroe. The boundary to the east does not require shoreline protection because the property is protected by a seawall which was built prior to the Sugar Cove Condominiums.

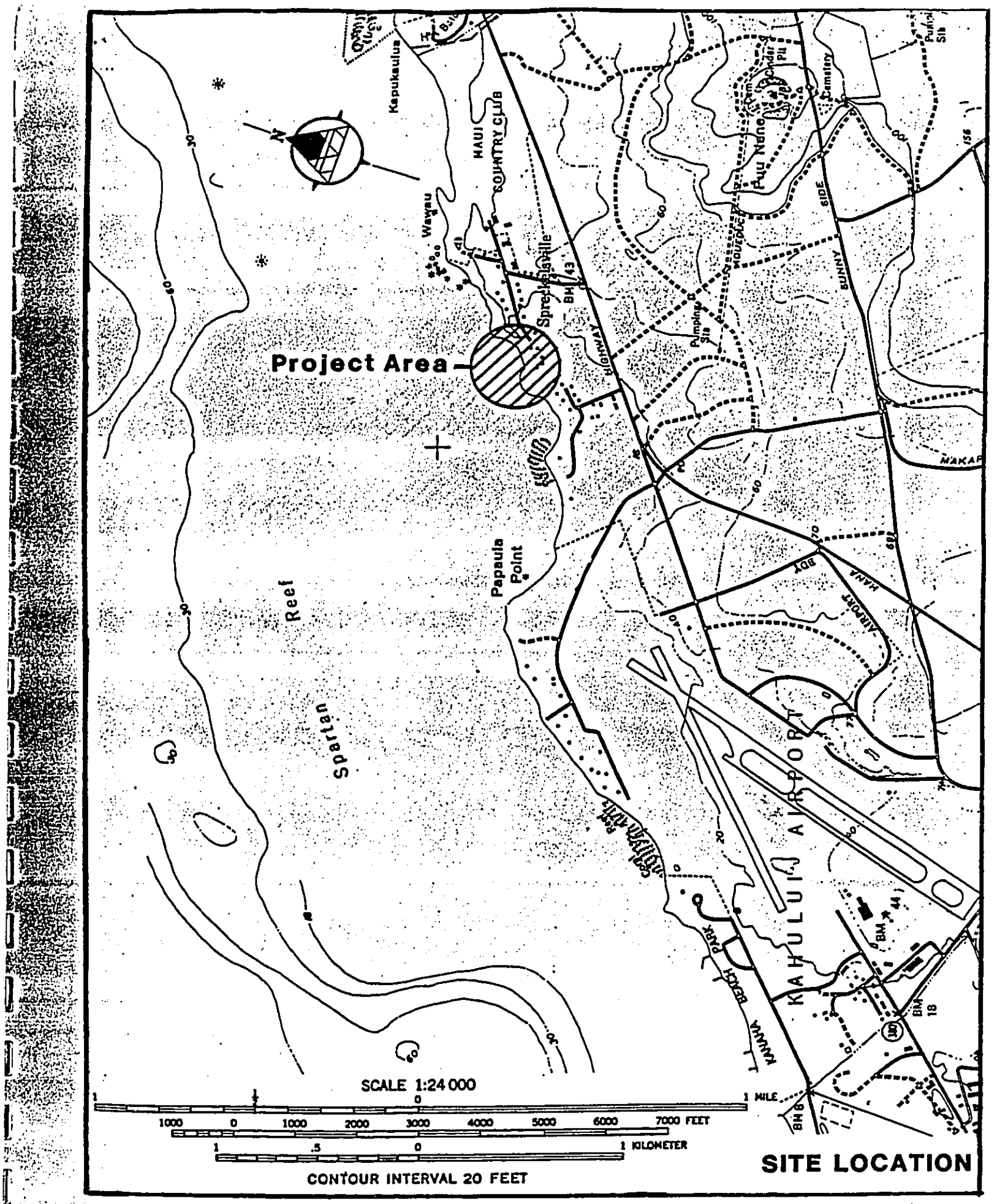

Project Area
Papaula Point
Reef
Spartan
Kapukaulua
Waiehu
HAUI COUNTRY CLUB
Spreckelsville
BM 43
HIGHWAY
Pumping Sta
HOUSING
PUU NANE
Cemetery
SIDE
BUNNY
MAKAP
AIRPORT
KAHULUI AIRPORT
BM 44
BM 18
KAHULUI BEACH PARK
KAHULUI HARBOR
SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 20 FEET
SITE LOCATION

Figure 1

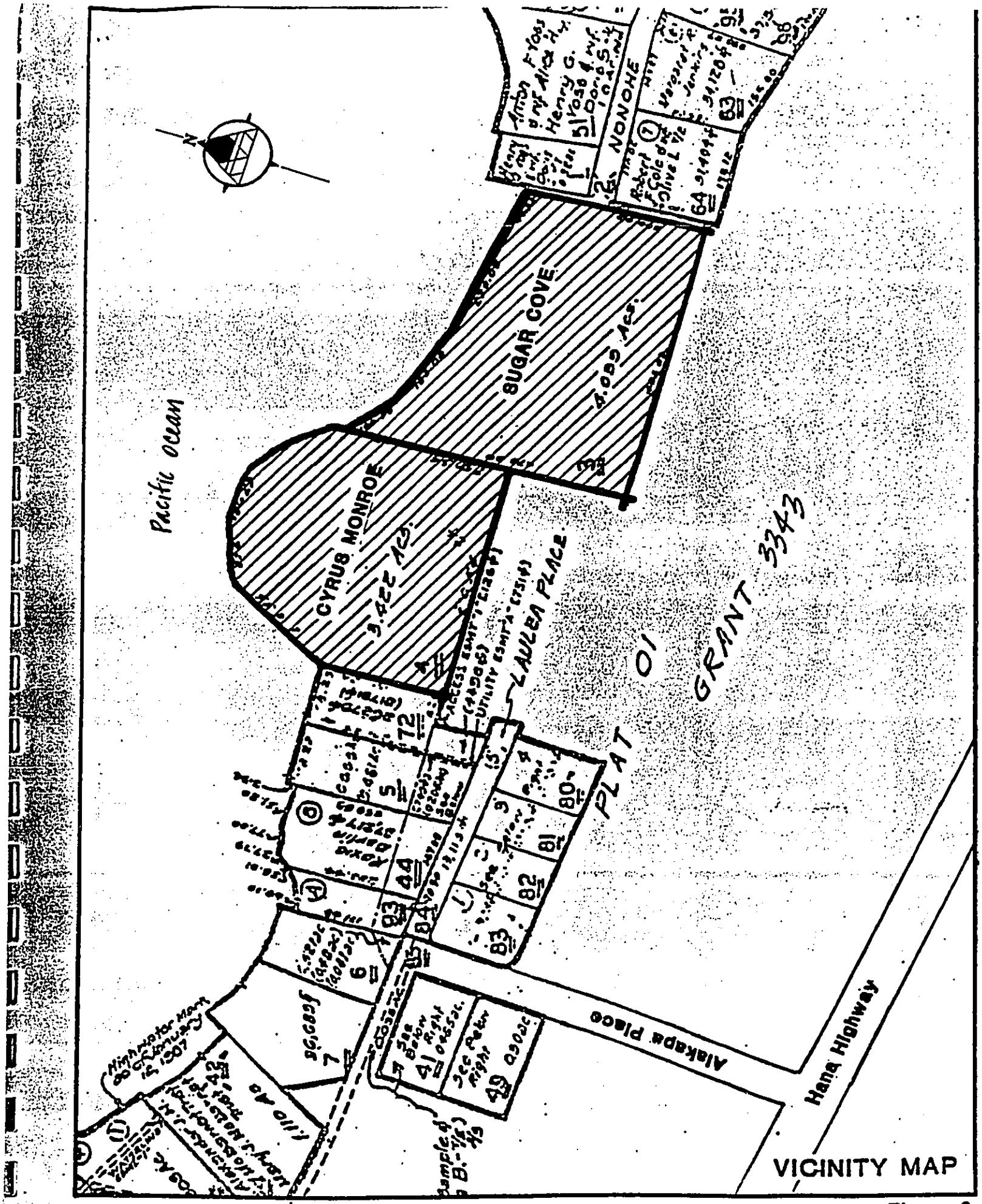

Pacific ocean
SUGAR COVE
4.033 Acs.
CYRUS MONROE
3.422 Acs.
NONOHE
LAULEA PLACE
GRANT 3343
PLAT
Alakapa Place
Hana Highway
VICINITY MAP

Figure 2

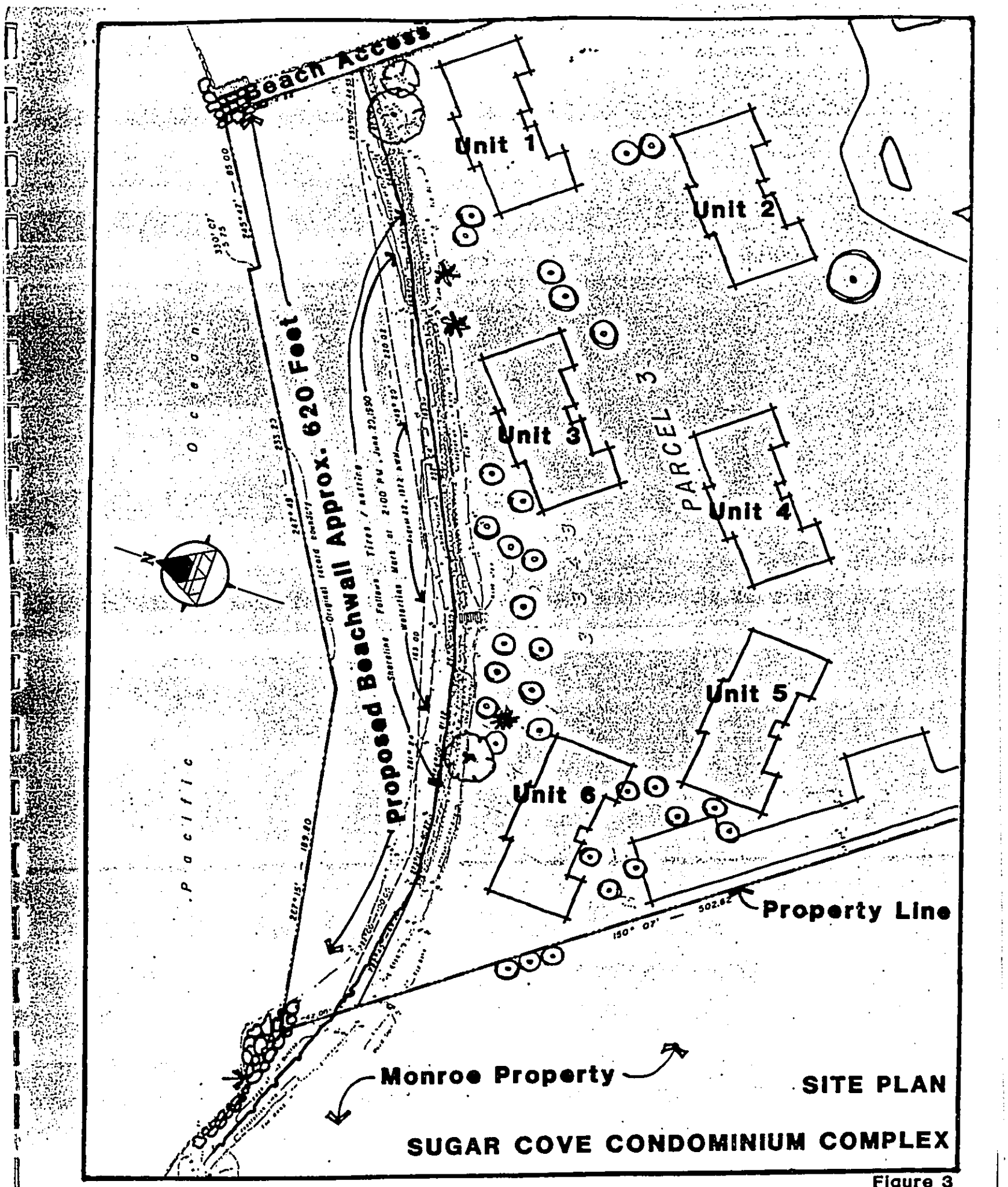

Beach Access
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Unit 6
PARCEL 3
Proposed Beachwall Approx. 620 Foot
Property Line
Monroe Property
SITE PLAN
SUGAR COVE CONDOMINIUM COMPLEX

Figure 3

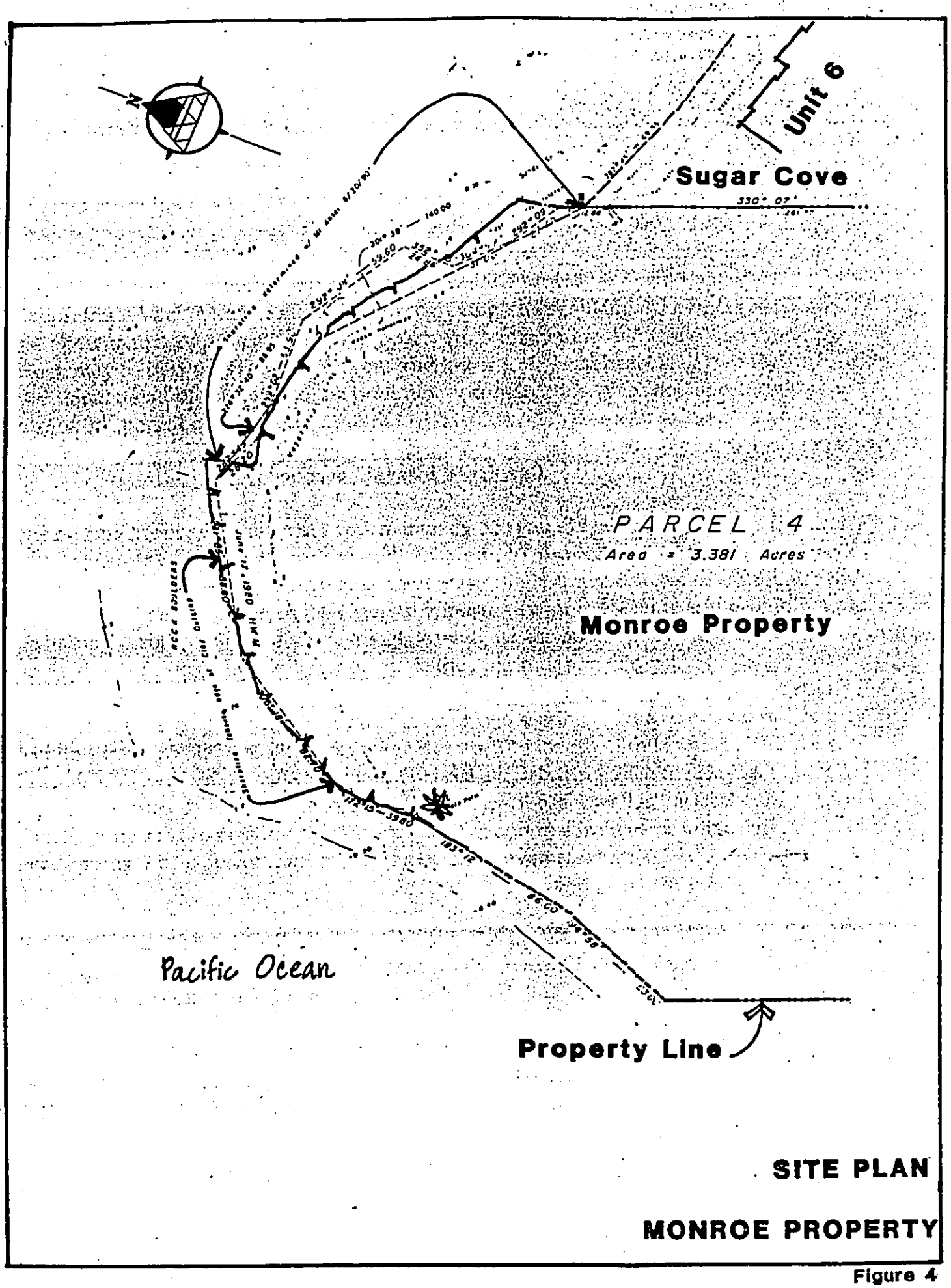

Unit 6
Sugar Cove
330° 07'
PARCEL 4
Area = 3.381 Acres
Monroe Property
Pacific Ocean
Property Line
SITE PLAN
MONROE PROPERTY

Figure 4

The owners of the Sugar Cove Condominiums and Mr. Monroe, early on, recognized the need to protect their property from further erosion. More importantly these owners recognized that while the construction of a seawall would protect their property, the seawall also had the potential to cause the loss of the sand beach fronting the Sugar Cove Codominiums and Monroe residence. Recognizing this problem, the owners determined their best chance of protecting their property from further erosion while also protecting the beach may be best provided by the construction of a Hayashi beachwall (See Figure 5). (For additional detail please refer to the preliminary construction plans and specifications as part of this permit application.)

2.3 Description of the Proposed Hayashi Beachwall

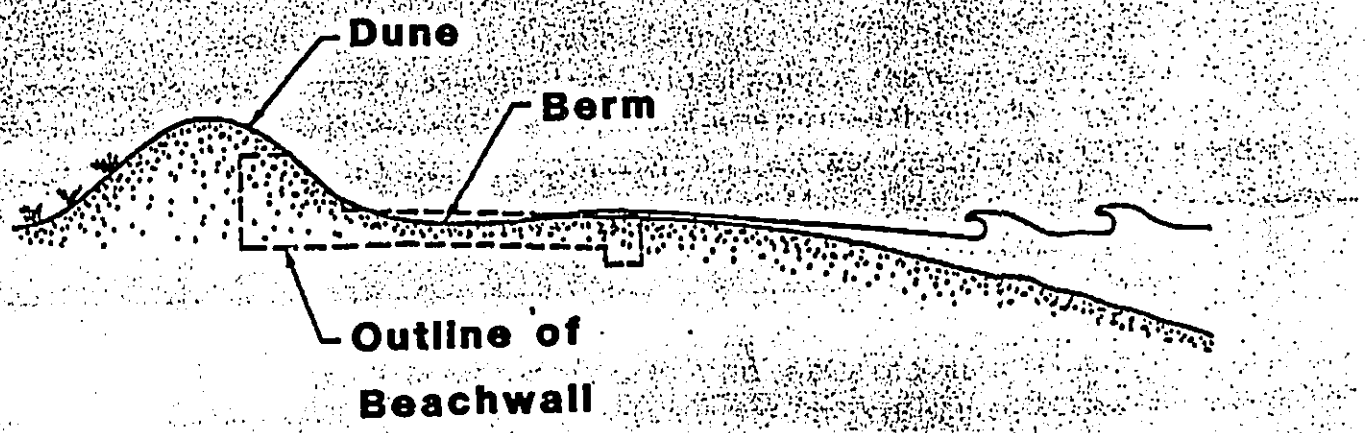
The owners propose to construct approximately 620 feet of Hayashi beachwall fronting both the Sugar Cove Condominium and Mr. Monroe's property. The Hayashi beachwall differs from the seawall in a very important way. The Hayashi beachwall assimilates the natural beach and in doing so provides an opportunity for preserving and promoting the accumulation of sand on the shoreline. A seawall, on the other hand, provides protection of property but the structure will not promote the accumulation of sand.

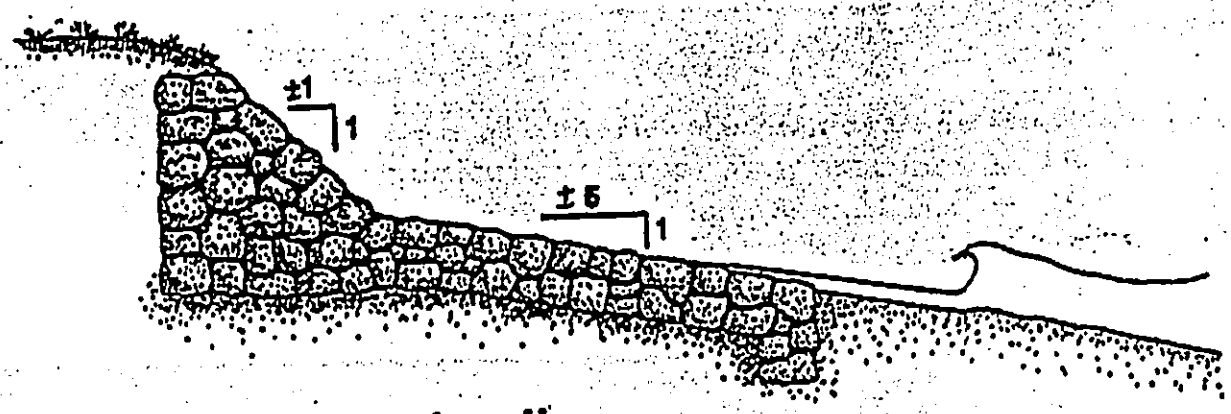
The face of a Hayashi beachwall is composed of two sections of different slopes. The first section slopes 1:5 (20%) to allow for wave run up. The length of this run up section is a function of wave run up and the amount of area available in which the Hayashi beachwall can be constructed. The second section of the Hayashi beachwall is the freeboard portion which is intended to provide shoreline protection and to eliminate or minimize overtopping. The slope of this section can be 1:1 or even steeper.

An analysis of the wave (ocean) forces impact on less environmentally sensitive seawall structures shows that the effect of the forces on the seawall reduce the chances of sand accumulation, and the same forces promote the structural failure of the seawall. An analysis of the same wave forces on a Hayashi beachwall shows the encouragement of any sand in suspension to form a beach.

Pedestrian access to the beach will be improved by the construction of stairs. The beach right of way is presently unsafe during periods of erosion when the clay scarp is exposed.

Not to scale.





HAYASHI BEACHWALL

Figure 5

3.0 DESCRIPTION OF THE EXISING ENVIRONMENT

3.1. PHYSICAL ENVIRONMENT

3.1.1. Introduction

Maui, the second largest island in the Hawaiian Islands, is 465,920 acres, or 728 square miles, measuring approximately 33 miles at the widest point in the north-south direction and 58 miles in the widest east-west direction. Maui was formed through the merging of two volcanoes, the East Maui Volcano, Haleakala, and the West Maui Volcano. The island is divided into three main geographic subdivisions: West Maui, the central isthmus, and East Maui.

The project site is located on the north side of the central isthmus, within Central Maui, about 4,000 feet east of Papaula Point and about four miles east of Kahului Harbor. It is located along a section of the Maui coast noted for strong and consistent offshore winds resulting from the northeast trades. Because of the wind, the extensive offshore reef, and favorable water depth, the area is known as a world premier wind surfing site.

3.1.2 Topograhy

The major relief features in Maui, as in all of the Hawaiian Islands are the result of building by volcanoes. In addition to construction by volcanoes; living organisms, sedimentary proccesses, and destruction by erosion account for landforms on Maui.

The coast between Kahului and Paia represents part of the northwest flank of Haleakala modified slightly by erosion and sedimentation. The coast is low with several beaches, and generally has a strip of dune along the shore. These dunes are comprised of both loose and lithified windblown sand. The hinterland is the gently dissected lower northwestern slopes of Haleakala.

The coast is fringed by a coral reef built upon the lava flow slopes which extend below sea level. The top of the reef ranges from half a mile to a mile in width and slopes gradually seaward from depths of a few feet at the toe of the beaches to 10 to 30 feet at the outer edge. There is considerable topographic relief on the reef, particularly near its outer margin where channelways of deeper water cut back into it (Cox, 1954; Moberly, 1964).

3.1.3 Climate

Hawaii's climate is notable for its mild temperatures year round, moderate humidity and persistent northeasterly trade winds. In the Spreckelsville area, as in most of Hawaii, there are only two seasons: "summer" between about May and October, when the sun is nearly overhead, and the weather is warmer and drier; and "winter" , between November and April, when the weather is cooler and wetter, and the trades are interrupted by other winds and intervals of widespread clouds and rain.

The northeasterly trades which prevail throughout the year are more persistent in the summer than during the winter (frequencies average 90 and 50 percent, respectively). During the winter months Hawaii may come under the influence of southerly winds of Kona storms, southwesterly winds that precede, or northerly winds that follow cold fronts. In the absence of storms and trade winds, light and variable winds prevail. During these times diurnal heating and cooling give rise to onshore sea breezes during the day and offshore land breezes at night (Armstrong, 1973).

The median annual precipitation in Speckelsville is 23.9 inches per year. The median monthly precipitation is 2.5 inches during the winter months, and 0.6 inches during the summer months (Giambelluca, 1986).

The average maximum daily temperature is 82 degrees F and the average minimum temperature is 63.0 degrees F (NOAA).

3.1.4 Geology and Soils

Maui is composed of two vocanic cones; East Maui, or Haleakala, and West Maui. Haleakala was built of three series of lava. The lower unit, the Honomanu vocanic series, is composed of thin-bedded pahoehoe and aa. The second series, the Kula series, is comprised of thicker andesitic aa flows. The most recent series, the Hana series, followed a long rest period during which considerable erosion occurred forming deep canyons. The Hana series flowed along the soutwest and east rifts only (Stearns, 1976).

Sugar Cove Condominium Complex is located on the north side of Maui Isthmus which is a bridge between Maui's two volcanos. Maui Isthmus is composed of flows from the Kula series and of extensive lithified calcareous dunes. The lava flows are intensely weathered, with soils having replaced the initial surface mineralogy and texture.

Soils within the project site are of the Pulehu-Ewa-Jaucas association. They developed in alluvium weathered from basic igneous rock, coral and seashells. The U.S. Soil Conservation Service lists soils of the project site as Beaches and Dune Land. Beaches occur as sandy, gravelly or Environmental Assessment for Shoreline Protection Sugar Cove Condominium Complex and Monroe Residence Page -10-

cobbly areas. Dune Land consists of hills and ridges of sand-sized particles drifted and piled by the wind (U.S. Soil Conservation Service, 1972).

Three test pits excavated in 1987 fronting the Sugar Cove Condominium Complex indicate the following soil conditions. The upper 7 to 9.5 feet of soil consists of brown silty to clean sand. Below this is a zone of silty clay of medium to high plasticity which can be classified as completely weathered basalt to a depth of 10 to 11.5 feet. The stiff clay zone is confirmed by outcrops in the beach area that were observed at a few locations particularly toward the west headland. The clay is gradually eroding toward the shoreline due to wave and sand action when it is exposed. Below this hard soil/soft rock, as exposed near the western headland, lies dark grey, moderately weathered basalt. The test pits terminated at 13 feet below ground surface (SRK-Robinson, 1990).

3.1.5 Hydrology

There are no streams in the immediate vicinity of the project site, the closest strorm drainage outlet is over a mile to the east. There are however, ground water resources which lie below Maui Isthmus in the form of basal ground water. This water is derived from the adjacent lavas and fluctuates in response to changes in rainfall, tides and draft. The Isthmus basin does not extend beneath permeable sediments near the coast, although fresh to slightly brackish water from the basin is lost during low tide to the sea at Spreckelsville Beach (Stearns and Macdonald, 1942). This phenomenon has been noted within the waters of Sugar Cove as well (Guild, 1991).

3.1.6 Coastal Environment

3.1.6.1 Tides

There are two tidal cyles per day along this coast with the range of water levels between successive cycles being unequal. The closest tidal station is at Kahului, about 4 miles to the

west. Tidal data, based on nine years of records from 1951 to 1959 are tabulated below (U.S. Army Corps of Engineers, 1989):

TABLE 1:
TIDAL DATA

	Feet
Highest Tide Observed (10/12/58 and 6/20/59)	3.6
Mean Higher High Water	2.3
Mean High Water	1.9
Mean Tide Level	1.15
Mean Low Water	0.40
Mean Lower Low Water	0.0
Lowest Tide Observed (6/19/55 and 6/20/55)	-1.2

3.1.6.2 Waves

The entire yearly wave spectrum in Hawaii can be described by four generalized wave types: Northeast trade waves, Southern swell, North Pacific swell, and Kona waves. These are typified by a specific range of wave heights, periods and direction of approach.

The Northeast trade waves may be present in Hawaiian waters throughout most of the year, but dominate the Hawaiian wave climate during the summer months. Generally, Northeast trade waves are present from 90 - 95 percent of the time during summer, and 55 - 65 percent of the time during winter. They result from strong and steady tradewinds blowing from the northeast quadrant over long fetches of open ocean and have a direct impact on Sugar Cove.

Waves of the North Pacific swell may arrive in the Hawaiian Islands throughout the year but are largest and most frequent during the winter months. North or Northeast swells are sometimes generated by winter storms northeast of the Islands. These storms are the ones that cause the most beach degradation at Sugar Cove on a regular basis.

The Southern swell is generated by southern hemisphere storms and is most prevalent during the months of April through October. These long, low waves approach from the

southeast through southwest.

Kona storm waves are generated by intense winds associated with local fronts or low pressure systems. These waves approach from the south to west, with the largest waves usually from the southwest. These waves usually occur during the winter months (Moberly, 1964).

The site is very well protected from Kona and south swell waves. However it is especially vulnerable to the tradewind waves and the North Pacific swells.

Major offshore waves resulting either from northern storms or hurricanes break on the extensive reef system off Sugar Cove, thus reducing the potential for damage to the shore. Using chart data and an offshore survey completed by Scott Sullivan of Sea Engineering Inc., it is apparent that the sea bottom slope below zero tide averages about 3 percent for the first 200 feet and then is somewhat flatter. Shallow depths occur along the reef. SRK-Robinson computed that the worst storm waves that break would be reduced to the range of 3.5 to 4.5 feet by the time they reach the the beach (SRK-Robinson, 1990).

3.1.6.3 Coastal Currents

The Hawaiian Islands are dominated by the North Equatorial Current. This current, caused by the Northeast trades and setting to the west, establishes the general drift pattern for the entire area. In deeper water, eddies of the North Equatorial Current dominate, while tide-generated currents are more conspicuous in shallow waters.

Along the shores of the Hawaiian Islands, there are two interrelated current systems. These are the Coastal Current System, a complex system operating on the island shelves and as far shoreward as the reef edges; and the Nearshore Current System, which is intimately connected with the Coastal Current System and mainly associated with the passage of waves. Both the Coastal System and the Nearshore System are important in the erosion, transport and deposition of coastal sediments (Moberly, 1963).

The Coastal Current System, moving westward towards Kahului Harbor, is most conspicuous in the offshore waters of Sugar Cove during the summer months when the Northeast trades dominate. Local residents have observed that during these months the waters within the cove are sheltered by the adjacent headlands. These inshore waters are still during summer mornings, but indicate current moving westward during the

afternoons with the onset of the Northeast trades (Guild, Farias, 1991).

Local residents have also noted that the current patterns are less stable during the winter months when the Northeast trades are not as prevalent and the surf is high. During times of high surf, current enters the bay from around both the headlands on the east and west sides, and exits the bay through the center. It is during these times, when the lithified clay is exposed to the surf, that silty plumes have been observed exiting the bay (Guild, Farias, 1991). As previously noted on page 1, the action of constructing the proposed natural rock Hayashi beachwall will mitigate this apparent erosion problem as well as enhance the offshore water quality and reef enrironment.

3.1.6.4 Shoreline Characteristics

Along the coast between Papaula Point and Paia, occasional lava ridges capped by red soil crop out on the shore, generally forming points. Beach deposits form the rest of this shore between points. There are many outcrops of beachrock - made up of consolidated calcareous material - along low tide, indicating it was probably formed when the sea level was a few feet lower than at present (Cox, 1954).

The stretch of beach between the end of Sprekelsville Beach Road and the Maui Country Club is known as Spreckelsville Beach. As is characteristic of this coast, Spreckelsville Beach is broken into a series of short beaches.

The project site is located on the shore of a bay along Spreckelsville Beach between rock defended headlands which are seperated by about 1200 feet. The shorefront at the middle of the bay is set back nearly 200 feet from the line between the two headlands (Cox, 1990).

The immediate shoreline consists of a rather abrupt eroded scarp from the grass level down to the top of the sand beach or lithified clay layer, depending on the season. There is a layer of broken concrete rubble exposed at a number of locations below the upper foot or so of topsoil in the beach scarp. This appears to be the remnants of an old sidewalk or building foundations, dumped along the shoreline at some time to waste the material and help protect the shoreline.

The beach averages a slope of 10 to 12 percent, although daily and seasonal changes take place which serve to adjust the sand position as the beach accretes and depletes. The crest of the shoreline and landscaped grass area, is at about Elevation 13.

As we have seen, the lithified clay layer is being continuously eroded so that the clay scarp (when sand has been temporarily lost) is as close as 10 feet from the shoreline crest. The clay, when exposed, is gradually eroding toward the shoreline due to wave and sand action. Below the hard soil/soft rock exposed near the western headland, solid basalt rock can be observed. Along the rest of this shoreline, about 40 to 50 feet out from the crest, the harder rock appears to be at Elevation 0 to -2 feet (SRK- Robinson, 1990).

3.1.6.5 Shoreline History

The seriousness of beach erosion along this coast has long been recognized (See Campbell, 1972; Clark, 1985; Cox, 1954; Moberly, 1963; Stearns and MacDonald, 1942). Beach recession has been noted by residents since soon after the turn of the century (Cox, 1954).

A 1954 study on beach retreat was conducted at the request of the Hawaii Sugar Planters Association because of their concern over both sand reserves and beach values (See Cox, 1954). By that time the lime kiln in Paia had been mining sand from various beaches on this coastline for about 40 years. The mining was to continue until the 1960's. Between 4,000 and 12,000 cubic yards per year were mined from Spreckelsville Beach. However, at the time of the HSPA study, it was estimated that roughly 800,000 cubic yards had been lost from the beach during the previous 50 years. The sand was not mined at a rate which could account for this dramatic decline (Cox, 1954).

Other factors which may have influenced beach retreat include; dune destruction, loss through erosion, and such natural processes as changes in sea level, in the direction of approach and the height of waves approching the shore, and in the rate of production of sand (Cox, 1990). There are some indications that the offshore reef is in a state of decline, thus inhibiting its ability to produce sand.

The shoreline retreat fronting the Sugar Cove complex is strikingly evident (See Figure 6). It is important to note that the increase in the rate of retreat of the shore has been progressive. Between the 1930's or 1940's and 1972, the average rate of retreat was about 0.6 to 0.8 feet per year. This rate increased to about 3.1 feet per year since 1972, and 5.2 feet per year for the top of the scarp and 7.4 feet per year for the 9 foot contour for the two and one half years ending in February 1990 (Cox, 1990).

It is highly likely that the adjacent seawall to the east has contributed to the rate of beach retreat at Sugar Cove as seawalls serve to deprive adjacent beaches on the downdrift side

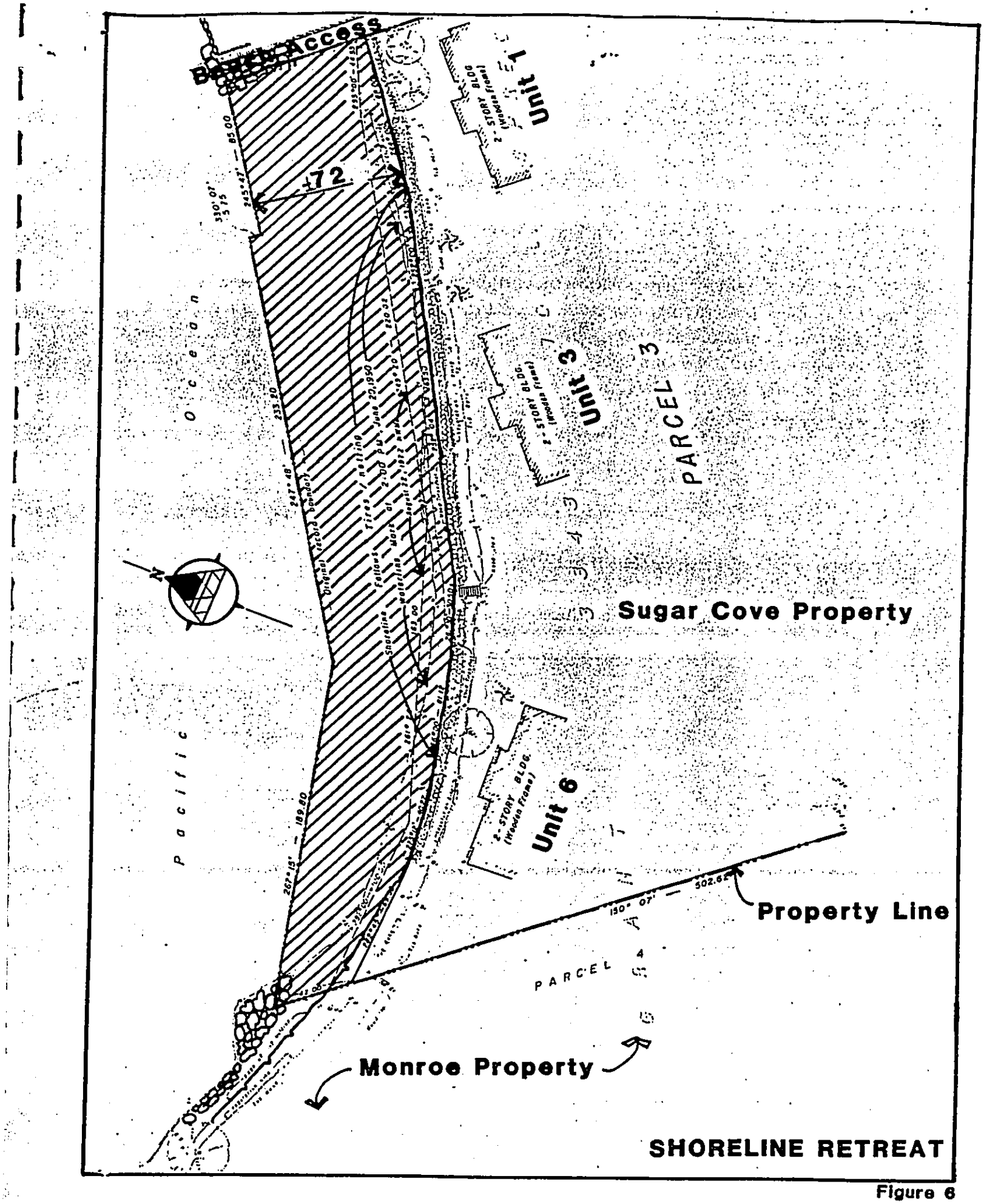

Beach Access
Unit 1
2-STORY BLDG. (Wooden Frame)
Unit 3
2-STORY BLDG. (Wooden Frame)
Unit 6
2-STORY BLDG. (Wooden Frame)
PARCEL 3
PARCEL 4
Ocean
Pacific
+72
Sugar Cove Property
Property Line
Monroe Property
SHORELINE RETREAT

Figure 6

of at least part of their natural sand supply (Sea Engineering, 1983). The seawall, built at least 50 years ago is 65 feet seaward of the high water mark at Sugar Cove, marking what was at the time of its construction a contiguous shoreline.

Two interim measures of shoreline protection were implemented by the owners of the Sugar Cove Condominiums. The shorefront was first sandbagged in early 1988 following shoreline retreat during the winter of 1987. The sandbags were replenished following their destruction by high surf several times during 1988 and 1989 and were finally netted in an effort to reduce loss. Tire gabions (tires wrapped in netting) were installed in October 1989, and anchored with rock. These have proven to be effective short-term erosion control measures as long as the lithified clay layer, which is also gradually eroding, acts as a structural base.

3.1.6.5 Tsunamis

Since 1813, eighty five tsunamis have been observed in the Hawaiian Islands; sixteen of these have resulted in significant damage. Since 1900, there have been eight significant tsunamis within the Kahului area in which the maximum wave height at Kahului was recorded at 22 feet (Pararas- Carayannis, 1969).

The Sugar Cove Condominium Complex is located within a tsunami inundation zone.

3.2 BIOLOGICAL ENVIRONMENT

3.2.1 Terrestrial Biology

The project site falls within the Kiawe and lowland shrub vegetation zone. Characteristic plants of this zone are Kiawe, Koa haole, finger grass and Pili grass. Of these, Pili grass is a native Hawaiian species. The dominant plants in all vegetation zones at lower elevations are species introduced to Hawaii since 1778 (Armstrong 1983). The property is landscaped with Hibiscus, grasses, Palms, Ironwood, and other plants typically found in coastal development. Naupaka, an indigenous plant species, grows along the scarp. Hau, also an indigenous plant, grows along the dunes on the adjacent Monroe property.

There are no rare, threatened, or endangered fauna associated with the Spreckelsville area. Mammals likely to be found in the region include feral cats, rodents and the mongoose.There are no wetlands associated with the project site.

3.2.2 Marine Biology

Sugar Cove Condominium Complex is fronted by a sandy beach which accretes and recedes daily and seasonally. Spartan Reef, named for the coal ship Spartan which went aground on the reef off of Sugar Cove in 1905, is a fringing reef extending from 0.5 to 1.0 miles in width. There is considerable topographic relief within Spartan Reef. A large sandy patch and sand pocket with scattered outcrops of limestone and/or limestone boulders front the Sugar Cove Condominium Complex. Beyond these is a complex reef bottom type consisting of a mixture of limestone boulders and outcrops, and sand; hard bottom rubble or boulders predominate. To the east of the sand patch and pocket is a solid or hard bottom composed of a massive rock surface and a sandy channel (U.S. Army Corps of Engineers, 1979).

Live coral predominates along the seaward edge of Spartan Reef while the back reef is covered by a thin veneer of sand with scattered larger sand pockets (Moberly, 1963).

There do not appear to have been any detailed studies of the reef biota done in the immediate vicinity of Sugar Cove. There was, however, a survey of the macrobiota found in the inshore waters near Kaa Point, some three miles to the west of Sugar Cove (U.S. Army Corps of Engineers, 1989). Like Sugar Cove, Kaa Point is fronted by Spartan Reef. The substrate there is characterized by a low relief limestone reef flat. The survey found a relatively depauperate fish fauna, probably due to the limited cover and relief. Close to shore at Kaa Point, the hard substrate was colonized by soft coral, algae, and several species of echinoderms. Further offshore scattered colonies of hard corals were present. Also found were brittle stars, sea urchins, and sea cucumbers. Table 2 shows the macrobiota found in the inshore waters near Kaa Point.

Residents of Sugar Cove have noted the depauperate nature of the marine biota within the nearshore area of Sugar Cove (Guild, Farias, 1991). There is high turbidity due to siltation from the eroding clay at the shoreline when exposed. In addition, the nearshore substrate is only recently exposed due to severe erosion in the area, also contribuing to the turbidity because it has not had the opportunity to become substantially colonized.

Both the endangered green sea turtle and the humpback whale have been sighted offshore of Sugar Cove. Neither of these have been observed in the inshore area (Guild, Farias, 1991).

TABLE 2:
CHECKLIST OF THE MACROBIOTA FOUND IN THE INSHORE WATERS NEAR KAA POINT, MARCH 1984

FISH
- Labridae
  - Thalassoma duperrey (Quoy and Gaimard)
  - T. Ballieui (Vallant and Sauvage)
  - Pseudocheilinus sp.
- Pomacentridae
  - Abudefduf abdominalis (Quoy and Gaimard)

INVERTEBRATES
- Cnidaria
  - Palythoa sp.
  - Pocilloppora meandrina Dana
  - P. damicornis (Linnaeus)
  - Montipora flabellata Studer
  - M. verrucosa (Lamarck)
- Echinodermata
  - Diadema paucispinum
  - Echinometra mathaei
  - Actinopyga mauritania
  - Holothuria atra
  - Echinothrix diadema
  - Ophiocoma sp.
- Molusca
  - Serpulorbis
- Algae
  - Padina sp.
  - Halimeda opuntia
  - Cladophora fascicularis
  - Acanthophora spicifera (Vahl)
  - Codium edule
  - Stypopdium hawaiiensis

Source: U.S. Army Corps of Engineers, 1989. Kahului Light Draft Navigational Improvements. Final Environmental Impact Statement.

3.3 Social Environment

3.3.1 Archaeological and Historical Resources

There are no known archaeological or historical sites within the immediate vicinity of the propsed action.

3.3.2 Land Use

Spreckelsville lies between Kahului, the main service community of Maui, and Paia, a rejuvenated sugar mill town being economically stimulated by the windsurfing community. Spreckelsville is an exclusive residential shoreline community located within the Wailuku District. While there was once a thriving plantation town in Spreckelsville, today it is comprised of single family residences and the Maui Country Club. The Hawaii State Land Use Commission designates the area as urban, County zoning shows the area to be R-3, while the Wailuku-Kahului Community Plan designates the site as single family residential. Sugar cane fields abut the Sugar Cove Condominium Complex and Monroe residence, forming their mauka border. This adjacent sugar land is classified as agricultural by the Hawaii State Land Use Commission.

3.3.3 Population

The 1990 census data is not yet available. However, the 1989 State of Hawaii Data Book shows the 1988 resident population of Maui was 84,100; Maui's 1988 de facto population (including visitors) was 115,400. During that same year the resident population of Wailuku District was 42,800. This represents a 33.4 percent increase from the 1980 Wailuku District population of 32,111. This increase in population is consistent with the total Maui County population increase during those years of 31 percent. It is however considerably higher than the overall 13.8 percent Statewide increase for that period (DBED, 1989).

4.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

The proposed beachwall would provide the shore protection required for the Sugar Cove Condominium Complex and Monroe property. Because the Hayashi beachwall will extend to the lava-protected point fronting the Monroe property, it should not result in a localized increase in erosion, nor should it change the overall coastal processes of the area. It will not impact the inshore transport zone for sand movement. During periods of erosion the

Hayashi beachwall may result in a narrow or no beach fronting the structure.

The Hayashi beachwall may represent a conspicuous feature of the beach slope fronting the Sugar Cove Condominium Complex and Monroe property. The lower reaches of the structure may be exposed during periodic wave scour. However, the upper reaches of the Hayashi beachwall can be concealed by vegetation.

4.1 Short-term environmental Impacts

It is unlikely that construction of the Hayashi beachwall will cause any impacts on the nearshore reef except in the immediate vicinity of the Hayashi beachwall in shallow water. These will be short-term impacts associated primarily with sedimetation caused by toe excavation and construction. Because of the substantial recent erosion, the nearshore substrate is only recently exposed and has not been extensively colonized. Therefore, there is no apparently significant nearshore marine biota to be impacted by sedimentation as a result of construction activities. The Nearshore Current System should effectively remove siltation from the nearshore area to be dispersed by the Coastal Current System.

Construction activities will also entail the use of heavy equipment which may encroach upon the nearshore reef. Again, because of the depauperate nature of the nearshore reef community, consequential environmental impacts are expected to be minimal. Compaction of beach sand by heavy equipment may destroy burrowing organisms or their preferred habitiat. Such losses would be limited to the construction site.

Beach usage will necessarily be curtailed during the construction phase because of the presence of heavy equipment and the dangers inherent in moving large pieces of armor stone. Construction activities will therefore restrict access to the ocean from the cove during the construction phase.

4.2 Long-term Environmental Impacts

Long term biological impacts of this action are largely expected to be beneficial. By reducing erosion of terrigenous materials from the backshore area, siltation and turbdity in the nearshore waters should be reduced, thereby improving chances for the substrate to become colonized. Minimizing siltation is in the best interest of long range reef flat maintenance and protection.

Should the lower reaches of the Hayashi beachwall be periodically exposed by wave scour, these areas may provide niches for intertidal and supratidal species.

5.0 ALTERNATIVES TO THE PROPOSED ACTION

5.1 No Action

The no action alternative is not viable given the instability of the beach. The rate of beach loss in recent years and consequent shoreline erosion has brought the scarp to within 13 feet of Building 3 and within 20 feet of the other two shorefront buildings, thus making them especially vulnerable to structural damage from further erosion.

5.2 Breakwaters

A breakwater is a structure designed to provide protection from wave action to an area or shoreline located on the landward side off the structure. A breakwater is constructed offshore from, and generally parallel to, the shoreline to be protected. While the technology involved in breakwater construction and performance is straight-forward, there are a number of disadvantages related to this protection measure. These include the logistics and cost of construction of an offshore structure, the impact on the marine environment, and unknown impacts on erosion and deposition on adjacent properties.

5.3 Jetties and Groins

Jetties and groins are both types of littoral barriers. Jetties are constructed to control flow and littoral processes in the vicinity of a channel or channel mouth. Groins are built perpendicular to the shoreline to interrupt longshore currents, thereby trapping sand on the updrift side and increasing erosion on the downdrift side. While littoral barriers are effective in arresting longshore drift, they alter the erosion and accretion patterns on adjacent properties. This type of structure is generally considered environmentally unacceptable because of the impact on the natural environment and particularly on the shoreline beyond the property. Further, in the case of a small isolated beach like Sugar Cove, it would be difficult to design a groin system which would have a sufficient impact on beach erosion.

5.4 Beach Nourishment

Beach nourishment involves artificial placement or movement of sand to replace erosion losses. A protective beach provides protection against Environmental Assessment for Shoreline Protection Sugar Cove Condominium Complex and Monroe Residence Page -20-

wave attack on the beach scarp, as well as restoring the shoreline. Sand passing differs slightly in that sand accumulating updrift from a feature, such as a jetty or a headland, is manually moved to a location downdrift or where required by erosion. Sand dunes provide protection against above average wave runup are also a source of material for beach nourishment.

In some cases, the capacity of waves to remove sand may be so great that it is not economically feasible to nourish the beach, and a beach without structural backup may not provide adequate protection during severe wave attack. Given the history of sand movement in the area, the erosion during recent years, the unavailability of beach sand for construction, and relative cost measures, sand replacement is not considered feasible as the principal shoreline protection measure. Also, present regulations do not permit the dredging of offshore sand for beach replacement.

5.5 Seawalls and Bulkheads

Seawalls and bulkheads are generally vertical, solid structures, built parallel to the shoreline to protect the beach shore from further wave attack. These structures protect the backshore immediately behind the structure, but provide no protection beyond the ends of the structure. The ends must be tied back into higher ground or tied into an adjacent structure to prevent flank erosion.

Seawalls are concrete or grouted masonry walls used to protect the land from wave damage, with use as a retaining wall a secondary consideration. A well designed and constructed seawall is a proven, long lasting, relatively low maintenance, shore protection method. However the vertical seaward faces of seawalls cause two problems. First, because they dissipate little wave energy, smooth vertical seawalls are more easily overtopped by waves and spray than sloping irregular walls. Second, the downward component of deflected wave energy causes severe scour at the base of the wall, which can result in

undermining of the wall. This scour also results in severe and permanent loss of beach sand.

A bulkhead is a vertical wall constructed of sheetpiles driven into the ground and stabilized by tiebacks. In general, the primary purpose of a bulkhead is to retain or prevent slope failure of ground, with the secondary purpose of protection against wave damage. The smooth vertical face of a bulkhead does not absorb wave energy, and the reflected energy usually results in the loss of beach material seaward of the structure and scour at the toe. Because of the considerable engineering required for bulkhead design, the relatively unattractive appearance, the likely loss of sand seaward of the structure, and the fact that it is directly exposed to wave attack, a bulkhead is not considered a suitable means of shore protection without additional measures to mitigate adverse impacts. Given the shallow depth to bedrock at Sugar Cove, this option becomes even more impractical.

5.6 Conclusion

We believe that the proposed action to construct a natural rock Hayashi beachwall is a unique solution designed to direct wave energy to encourage the accretion of sand, and is therefore superior in many respects to the foregoing list of alternatives.

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CREDITS

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Ms. Barbara Guild, Engineer - Sugar Cove Resident, Advisor

Mr. Ralph Hayashi, Professional Civil and Structural Engineer

BEFORE THE MAUI PLANNING COMMISSION

COUNTY OF MAUI

STATE OF HAWAII

In the matter of the request of Mr. Paul R. Mancini, Attorney on behalf of the Sugar Cove Board of Directors and Cyrus Monroe requesting an Environmental Assessment Determination for the proposed construction of a shoreline revetment within the shoreline setback area in Spreckelsville, Maui, Hawaii, TMK: 3-8-02: 3 and 4	92/EA-001 Sugar Cove Board of Directors Cyrus Monroe (CY)

MAUI PLANNING COMMISSION'S
ENVIORNMENTAL ASSESSMENT DETERMINATION
April 20, 1992

Maui County Planning Department
250 South High Street
Wailuku, Hawaii 96793

Environmental Assessment Determination
92/EA-001

GENERAL DESCRIPTION OF THE AFFECTED ENVIRONMENT

1. The subject site is located at TMK: 3-8-02: 3 and 4 in Spreckelsville, Paia, Maui. (Exhibits 1 and 2) Parcel 3, Sugar Cove, contains an area of 4.039 acres. Parcel 4, Cyrus Monroe's property contains an area of 3.422 acres.

2. The shoreline of the Sugar Cove Condominium Complex extends about 500 feet in a rough east-west direction, while the beach fronting the Monroe property continues to the west a further 120 feet to a rocky headland. At the east end of the property, an old stone and masonry seawall extends from the Sugar Cove shoreline some distance into the tidal zone. This wall protects the adjacent property. The overall cove probably extended in a continuous beach to an eastern rocky headland before the adjacent wall was constructed at least 50 years ago.

3. The properties are currently developed. The Sugar Cove Condominium Complex consists of six two-story buildings with three condominiums on each for a total of eighteen units. The Monroe property contains a private residence.

4. The land use designations for the subject properties are as follows:

a. Wailuku-Kahului Community Plan - Single -Family Residential
b. State Land Use District - Urban
c. Zoning - R-3 Residential District
d. Special Management Area- Portions of the project mauka of the certified shoreline are within the SMA boundary.
e. Other Special Districts - Portions of the project makai of the certified shoreline are within the State Conservation District.

5. The surrounding land uses are as follows:

a. North - Ocean
b. East - Single Family Residence
c. South - Agricultural
d. West - Single-Family Residential

Shoreline area.

6. According to the applicant, the shoreline fronting the subject properties has eroded about 40 feet since 1972. The scarp is now within 13 feet one of the Sugar Cove's shorefront buildings and within 20 feet of the other two shorefront buildings, posing an imminent threat to these buildings from storm waves. While the Monroe property shorefront has also receded, the residences are located further back from the cove and are protected by dunes, thus do not face immediate structural danger by storm waves.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

BEFORE THE MAUI PLANNING COMMISSION

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THE APPLICATION

This matter arises from an application for an Environmental Assessment Determination filed on December 13, 1991, pursuant to Chapter 343, Hawaii Revised Statutes, as amended, by Mr. Paul R. Mancini, attorney on behalf of the Sugar Cove Board of Directors and Cyrus Monroe for the proposed construction of a revetment within the shoreline setback area in Spreckelsville, Island of Maui TMK: 3-8-02: 3 and 4.

The application was transmitted to the Planning Department from the Department of Public Works on February 13, 1992. The Maui Planning Commission reviewed the Environmental Assessment Determination matter at its meeting on April 20, 1992.

PURPOSE OF THE APPLICATION

The applicants are requesting an Environmental Assessment Determination to construct a shoreline revetment within the shoreline setback area in order to prevent further erosion of their properties. Proposed actions within the shoreline setback area require environmental impact review pursuant to Chapter 343, Hawaii Revised Statutes. The applicants have also requested a Shoreline Setback Variance and a Special Management Area Permit. These matters will be scheduled before the Maui Planning Commission after the Commission makes a determination on the subject request.

APPLICABLE REGULATIONS

Standards for reviewing an Environmental Assessment are found in the Hawaii Administrative Rules, Title 11, Department of Health, Chapter 200 Environmental Impact Statement Rules, Subchapter 6, Determination of Significance, Section 11-200-12 Significance Criteria.

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7. According to the applicant, beach erosion along the Spreckelsville coast has long been recognized as a problem. In fact, beach retreat was noted by area residents soon after the turn of the century. Changes to the onshore environment have likely accelerated the rate of erosion. These include 40 years of sandmining (ending in the 1960s), the adjacent vertical seawall, dune destruction, and the decline of offshore coral reefs due to siltation from runoff. It is possible that a major episodic natural event or events occurred sometime around the turn of the century to account for the rapid rate of beach erosion. The possibility of such an event might have included changes in ocean currents, offshore underwater geological changes, rise in ocean water levels, or some other condition. (Hayashi, 1990)

8. The rate of shoreline retreat fronting the Sugar Cove Condominium Complex has been striking, especially in recent years. The increase in the rate of erosion has been progressive. Between the 1930s or 1940s and 1972, the average rate of retreat was about 0.6 to 0.8 feet per year. Since 1972, the average rate of shoreline retreat increased to about 3.1 feet per year. For the past two and one half years ending in February 1990, the top of the scarp has eroded at a rate of 5.2 feet per year while the 9 foot contour has eroded at a rate of 7.4 feet per year. (Cox, 1990)

9. The seawall adjacent to the sand beach fronting the Sugar Cove project has also contributed to beach loss. The seawall, built at least fifty years ago, marks what was at the time of its construction a contiguous shoreline. The wall is now some 65 feet seaward of the high water mark at Sugar Cove. According to the applicant, vertical seawalls as this are generally recognized today as environmentally unacceptable shoreline protection options because of their adverse impact on sand supply for beaches on their downdrift side and because they ultimately contribute to beach loss due to wave scour action.

10. Residents of Sugar Cove Condominium became alarmed following storm wave action during the winter of 1987/88. During one storm, large chunks of shoreline fronting Building 3 were lost, as were several large trees. Sugar Cove residents initiated discussion on permanent engineering solutions on permanent engineering solutions to beach erosion. In the interim sand bags were placed along the coast. They sandbags were replenished at regular intervals during 1988 and 1989, and were finally netted in an effort to reduce loss. Tire gabions (tires wrapped in netting) were installed in October 1989 in a further effort to protect property. The applicant was issued an Emergency SMA Permit for the tire gabions, a condition of the approval was that the applicant seek a more permanent solution to the erosion problem.

11. The Sugar Cove Condominium Board asked Keith Robinson, Engineer, in association with Dames and Moore Engineers to do a feasibility study. In May 1988, the feasibility study entitled

"Evaluations of Shoreline Protection Options" recommended a full rock revetment as the most effective permanent protection against all storm conditions.

12. The report "Final Design Recommendations for Shoreline Protection: Sugar Cove Complex, Paia, Maui" was completed by SRK - Robinson Inc. in August 1990. Two alternative options for shoreline protection were proposed; one of these was the Hayashi beachwall and the other a single slope revetment. Residents of Sugar Cove determined to preserve or possibly enhance the beach, expressly requested the consideration of this compound slope configuration beachwall because of its design intended to encourage sand accretion.

13. Two reviewers from the University of Hawaii were asked to comment upon this report: Professor Willem T. Bakker and Professor Doak C. Cox. Dr. Bakker concluded that the Hayashi beachwall will perform better in the long run than the single slope configuration revetment. Dr. Cox also concluded in his report, "Means of Shoreline Protection: Sugar Cove, Spreckelsville, Maui" (1990), that the probability of reaccumulation of sand is greater with the compound slope configuration than with a single slope configuration. Both he and Dr. Bakker did, however, favor an alternative design in which the upper portion of the beachwall is less steep than presently proposed.

14. Waves. The site is very well protected from Kona and south swell waves, but it is especially vulnerable to the tradewind waves and the North Pacific swells. Major offshore waves resulting either from northern storms or hurricanes break on the extensive reef system off Sugar Cove, thus reducing the potential for damage to the shore. The sea bottom slope below zero tide averages about 3 percent for the first 200 feet and then is somewhat flatter. Shallow depths occur along the reef. SRK- Robinson computed that the worst storm waves that break would be reduced to the range of 3.5 to 4.5 feet by the time they reach the beach.

15. Current Systems. The Coastal Current System, moving westward toward Kahului Harbor, is most conspicuous during the summer months when the trades dominate. Local residents have observed that during these months the waters within the cove are sheltered by the adjacent headlands. These inshore waters are still during the summer mornings, but indicate current movement westward during the afternoons with the onset of the trades.

16. Local residents have also observed that the current patterns are less stable during the winter months when the Northeast trades are not as prevalent and the surf is high. During times of high surf, current enters the bay from around both the headlands on the east and west sides and exits the bay through the center. It is during these times when the lithified clay is exposed to the surf, that silty plumes have been observed exiting the bay.

17. Shoreline Characteristics. The project site is located on the shore of a bay along Spreckelsville Beach between rock defended headlands which are separated by about 1200 feet. The shorefront at the middle of the bay is set back at least 200 feet from the line between the two headlands. (Exhibit 3) The immediate shoreline consists of a rather abrupt eroded scarp from the grass level down to the top of the sand beach or lithified clay layer, depending on the season. There is a layer of broken concrete rubble exposed at a number of locations below the upper foot or so of topsoil in the beach scarp. This appears to be remnants of an old sidewalk or building foundations, dumped along the shoreline at some time to waste the material and help protect the shoreline.

18. The beach averages a slope of 10 to 12 percent, although daily and seasonal changes take place which serve to adjust the sand position as the beach accretes and depletes. The crest of the shoreline and landscaped grass area is at about Elevation 13. The lithified clay layer is being continuously eroded so that the clay scarp is as close as 10 feet from the shoreline crest. The clay, when exposed, is gradually eroding toward the shoreline due to wave and sand action.

19. Three test pits excavated in 1987 fronting the Sugar Cove Condominium Complex indicate the following soil conditions. The upper 7 to 9.5 feet of soil consists of brown silty to clean sand. Below this is a zone of silty clay of medium to high plasticity which can be classified as completely weathered basalt to a depth of 10 to 11.5 feet. The stiff clay zone is confirmed by outcrops in the beach area that were observed at a few locations particularly toward the west headland. The clay is gradually eroding toward the shoreline due to wave and sand action when it is exposed.

20. The Sugar Cove Complex is situated within a tsunami inundation zone. According to the Flood Insurance Rate Map, Panel 150003-0195-B dated June 1, 1991, the project site is located in Zone V23, areas inundated by the 100-year coastal flood with velocity hazards and a base flood elevation of 17 feet above mean sea level. (Exhibit 4)

21. The project site falls within the Kiawe and lowland shrub vegetation zone. Characteristic plants of this zone are Kiawe, Koa haole, finger grass, and Pili grass. Pili grass is a native Hawaiian species. The dominant plants in all vegetation zones at lower elevations are species introduced to Hawaii since 1778. The property is landscaped with Hibiscus, grasses, Palms, Ironwood, and other plants typically found in coastal development. Naupaka, an indigenous plant species, grows along the scarp. Hau, also an indigenous plant, grows along the dunes on the Monroe property.

22. There are no rare, threatened, or endangered fauna associated with the Spreckelsville area. Mammals likely to be found in the region include feral cats, rodents, and the mongoose.

There are no wetlands associated with the project site.

23. Sugar Cove Condominium Complex is fronted by a sandy beach which accretes and recedes daily and seasonally. Spartan Reef, named for a coal ship which went aground on the reef off of Sugar Cove in 1905 is a fringing reef extending from 0.5 to 1.0 miles in width. Residents of Sugar Cove have noted the depauparate nature of the marine biota within the nearshore area of Sugar Cove. There is high turbidity due to siltation from the eroding clay at the shoreline when exposed. Both the green sea turtle and the humpback whale have been sighted offshore of Sugar Cove. Neither of these have been observed in the inshore area.

24. Shoreline access no. 302, a pedestrian access, is located on the east side of the Sugar Cove property.

DESCRIPTION OF THE PROPOSED ACTION

25. The owners propose to construct approximately 620 feet of Hayashi beachwall fronting both the Sugar Cove Condominium and Mr. Monroe's property. (Exhibits 5 and 6) The Hayashi beachwall is intended to assimilate the natural beach and in doing so promote the accumulation of sand on the shoreline. According to the applicant, a seawall provides protection of property but the structure will not promote the accumulation of sand.

26. The face of a Hayashi beachwall is composed of two sections of different slopes. The first section slopes 1:5 (20%) to allow for wave run up. The length of this runup section is a function of a wave run up and the amount of area available in which the Hayashi beachwall can be constructed. The second portion of the Hayashi beachwall is the freeboard portion which is intended to provide shoreline protection and to eliminate or minimize overtopping. The slope of this section can be 1:1 or steeper. In this case, the slope of this section of the wall will be 4:1. (Exhibit 7)

27. The effect of the forces on the seawall reduce the chances of sand accumulation, and the same forces promote the structural failure of the seawall. An analysis of the same wave forces on a Hayashi beachwall shows the encouragement of any sand in suspension to form a beach. (see paper by Ralph Hayashi)

28. Pedestrian access to the beach will be improved by the construction of stairs. The beach right-of-way is presently unsafe during periods of erosion when the clay scarp is exposed.

27. For the area 23 feet seaward of the certified shoreline to an elevation of -0.90 feet mean sea level (MSL). The footing of the most seaward portion of the revetment will be approximately -8.0 feet MSL. Portions of the revetment will be submerged. The second portion of the beachwall will extend 7 feet landward of the certified shoreline and have a 4:1 slope.

28. The Hayashi beachwall design was used at the Mahana and Kaanapali Shores projects in Honokowai.

29. The applicant has submitted a landscaping plan for the backshore section of the upper portion of the beachwall.

30. The project will also need to obtain a Department of the Army Permit and a Conservation District Use Approval from the Board of Land and Natural Resources. The Maui Planning Commission did approve a Shoreline Setback Variance and Special Management Area Permit for the construction of a revetment by James Riley and Peter Martin in the Spreckelsville in 1991. (91/SSV-004 and 91/SM1-028) (Exhibit 8)

31. According to the applicant, the best time to construct the beachwall is during the summer months between June and August. (Exhibit 9)

Agency Review

32. The application was sent to the following agencies on February 19, 1992 for their review and comments:

a. Department of Public Works - Memo dated March 30, 1992 (Exhibit 10)
b. U.S. Army Corps of Engineers - Letter dated March 13, 1992 (Exhibit 4)
c. Department of Land and Natural Resources - Two reminder notices sent
d. Office of State Planning - Letter dated March 9, 1992 (Exhibit 11)
e. Department of Health - Letter dated March 2, 1992 (Exhibit 12)
f. Department of Accounting and General Services - Memo dated February 24, 1992 (Exhibit 13)

Agency Comments

33. The Department of Public Works had the following comments on the proposed design:

a. They would request the submittal of the design criteria and rationale which determined the length and slope of this section of the revetment.
b. The 4:1 sloped portion of the revetment appears too steep to promote sand accumulation. Near vertical shoreline structures deflect the power of waves in such a way that it scours the sand at the foot of the structure and prevents the natural accumulation of sand on the shoreline. It is recommended that the slope be modified to better facilitate sand accumulation.
c. The developer should submit a solid waste management plan to them for review and approval.

34. The Office of State Planning comments that it is a CZM policy to provide adequate, accessible, and diverse recreational opportunities by providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value. They advocate the protection of beaches for public use and recreation. Protection of beaches is enhanced by limiting private shoreline stabilization structures to areas mauka of the shoreline, unless they result in improved aesthetic and engineering solutions to erosion and do not interfere with existing recreation and waterline activities. Further, Section 205A-46, Hawaii Revised Statutes, only allows for variances for private facilities that fix the shoreline provided that the authority imposes conditions to prohibit any structure seaward of the existing shoreline unless it is clearly in the public interest.

They are concerned with the design of the structure. The encroachment into the area seaward of the shoreline may have serious adverse impacts on the beach and is contrary to the intent of the shoreline setback provisions. The proposed encroachments into the Conservation District may inhibit access along the shoreline of this beach. Therefore, the proposed project is inconsistent with the CZM recreational resources policy.

The steep slope of the mauka section may not allow for the accumulation of sand. They do not concur with the applicant that because a similarly designed structure in Kaanapali resulted in sand accumulation that the same will occur at the project site. The Kaanapali area is not influenced by the same wave types and coastal currents as are present at the project site. Two University of Hawaii reviewers favor an alternate design in which the upper portion of the structure is less steep than presently proposed. They recommend that the subject applications be denied for the proposed project.

35. The Army Corps of Engineers states that the proposed revetment requires a DA permit. A nationwide permit can be processed provided that a project-specific Water Quality Certification and Coastal Zone Management (CZM) concurrence are acquired.

36. The Department of Health has no comments to offer at this time.

37. The Department of Accounting and General Services confirms that no Government Survey Triangulation Stations and Benchmarks are affected. They would have no objections to the proposed project.

IDENTIFICATION AND SUMMARY OF MAJOR IMPACTS, ALTERNATIVES,

Anticipated Long-Term Impacts

38. Provision of a rock revetment fronting the two properties

will add a man-made structure at the beach at Sugar Cove. This permanent structure constructed of locally quarried rock and covered mostly with sand will replace the temporary tire gabion shore protection. Planting the backshore area of the revetment will improve the aesthetic impact of the structure. According to the applicant, it is anticipated that the beachwall, by stabilizing the beach slope, will have the beneficial effect of minimizing siltation to nearshore waters in the longterm. The structure may encourage the reaccumulation of sand at Sugar Cove.

39. Short-term construction related impacts are anticipated. These impacts will last no longer than the construction phase and can be mitigated by proper construction techniques. These short-term impacts will include:

a. Siltation. Minor siltation of inshore waters would be associated with the construction phase of the revetment. Siltation would occur only during construction and for a short period following construction. Prevailing nearshore currents would rapidly dilute and disperse silt plumes. All imported armor stone and rock will be washed with a hose prior to placement on the beach to remove adhering soil and organic material. This action will reduce, but will not eliminate siltation.

b. Sand Compaction. Compaction of beach sands by heavy equipment may destroy certain intertidal, supratidal, or subtidal burrowing organisms or their preferred habitat. "Common corridors" for heavy equipment access will minimize disturbances to the beach proper.

c. Heavy equipment encroachment on inshore subtidal zone. Heavy equipment operations may break or dislodge beach sandstone and limestone deposits, resulting in disturbances to, or destruction of, marine species associated with nearshore rock deposits. The use of a sheet pile cofferdam would minimize the disturbances to the nearshore communities.

d. Curtailed Beach Usage During the Construction Phase. Beach usage would likely be curtailed during the construction phase of the project because of the presence of heavy equipment. An alternative corridor on the backshore of the properties could be made available for public access and passage.

e. Noise from Construction Equipment. Noise from construction equipment will kept within the limits permitted by the State, County, OSHA regulations. Construction activities will be restricted to daylight hours between 7:00 a.m. and 3:30 p.m.

Alternatives to the Proposed Action

40. No Action. The no action alternative is not viable given the instability of the beach. The rate of beach loss in recent years and consequent shoreline erosion has brought the scarp to within 13 feet of Building 3 and within 20 feet of the other two shorefront buildings, thus making them especially vulnerable to structural damage from further erosion.

41. Breakwaters. A breakwater is a structure designed to provide protection from wave action to an area of shoreline located on the landward side of the structure. A breakwater is constructed offshore from and generally parallel to the shoreline to be protected. The disadvantages related to the protection measure include the logistics and cost of construction of an offshore structure, the impact on the marine environment, and unknown impacts on erosion and deposition on adjacent properties.

42. Jetties and Groins. Jetties are constructed to control flow and littoral processes in the vicinity of a channel or channel mouth. Groins are built perpendicular to the shoreline to interrupt longshore currents, thereby trapping sand on the updrift and increasing erosion on the downdrift side. Littoral barriers alter the erosion and accretion patterns on adjacent properties. This type of structure is generally considered environmentally unacceptable because of the impact on the natural environment and particularly on the shoreline beyond the property. On a small isolated beach like Sugar Cove, it would be difficult to design a groin system which would have a sufficient impact on beach erosion.

43. Beach Nourishment. Beach nourishment involves artificial placement or movement of sand to replace erosion losses. In some cases, the capacity of waves to remove sand may be so great that it is not economically feasible to nourish the beach and a beach without structural backup may not provide adequate protection during severe wave attack. Given the history of sand movement in the area, the erosion during recent years, the unavailability of beach sand for construction, and relative costs, sand replacement is not considered feasible as the principal shoreline protection measure. Present regulations do not permit the dredging of offshore sand for beach replacement.

44. Seawalls and Bulkheads. Seawalls are concrete or grouted masonry walls used to protect the land from wave damage with use as a retaining wall a secondary consideration. A well designed and constructed seawall is a proven, long lasting, relatively low maintenance, shore protection method. The vertical seaward faces of seawalls causes problems because they dissipate little wave energy and the downward component of deflected wave energy causes severe scour at the base of the wall, which can result in the undermining of the wall.

A bulkhead is a vertical wall constructed of sheetpiles driven

into the ground and stabilized by tiebacks. The primary purpose of a bulkhead is to retain or prevent slope failure of ground, with the secondary purpose of protection against wave damage. The smooth vertical face of a bulkhead does not absorb wave energy and the reflected energy usually results in the loss of beach material seaward of the structure and scour at the toe. The considerable engineering required for bulkhead design, the relatively unattractive appearance, the likely loss of sand seaward of the structure, and the fact that it is exposed to wave attack makes the bulkhead an unsuitable means for shoreline protection. Given the shallow depth to bedrock at Sugar Cove, this option becomes more impractical.

SIGNIFICANCE CRITERIA

Pursuant to Chapter 200 of the Department of Health Rules and Regulations, the following criteria have been established in order to determine where an action will have a significant affect on the environment. In most instances an action shall be determined to have a significant affect on the environment if it:

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.

45. The proposed revetment has been designed to protect private property from the effects of shoreline erosion while having minimal adverse impacts to natural coastal processes. The selected alternative is the preferred one among the alternatives examined. The Office of State Planning is concerned with the design of the structure and public access. If it can be substantiated that the proposed project is clearly in the public interest and is in complicance with the objectives and policies of the Coastal Zone Management (CZM) Program, they would not have any objection. seaward of the shoreline may have serious adverse impacts on the beach. The project can be redesigned to meet the consistency requirements of the Office of State Planning.

46. In their Environmental Assessment, the applicant states that there are no known archaeological or historical sites within the immediate vicinity of the proposed action. At the west end of Nonohe Street which leads to the property, subsurface prehistoric cultural deposits and a human burial were encountered during excavations for the Paia sewer line. It is possible that subsurface deposit extends into the project parcel. They have reviewed numerous reports of burials being eroded out of the beach at Spreckelsville. They would recommend that an archaeological inventory survey to identify significant historic sites within the project area be conducted. The archaeological survey must involve close examination of the exposed beach face and subsurface testing along the property's edge to determine if cultural deposits are present and, if present, to collect adequate data and to assess their significance. The archaeological inventory survey requirement can be place as a condition of subsequent approvals

such as the SMA or CDUA.

(2) Curtails the beneficial uses of the environment.

47. While it will curtail the use of the beach area during the construction phase, the project is intended to stabilize the beach slope and have a beneficial effect of minimizing siltation to nearshore waters in the long term. The structure may encourage the reaccumulation of sand at Sugar Cove.

(3) Conflict's with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes.

48. The action would not conflict with Chapter 344, HRS.

(4) Substantially affects the economic or social welfare of the community or state.

49. The action is limited in scope and would have negligible social or economic affects to the community or state.

(5) Substantially affects public health.

50. Construction activities would generate some air, noise, and water pollution. These impacts would occur only over the short term and would be negligible compared to existing background levels. Thus, the project would not have any substantial affect on public health.

(6) Involves substantial secondary impacts, such as population changes or effects on public facilities.

51. Due to the limited and confined scope of the project, it would not result in substantial secondary impacts.

(7) Involves a substantial degradation of environmental quality.

52. The action would result in minor disturbance of the nearshore waters as a result of disturbance of topsoil during the construction phase. Prevailing nearshore currents would rapidly dilute and disperse silt plumes. Furthermore, the water quality disturbance would be minor in comparison to the current conditions of backshore erosion.

The Hayashi beachwall should serve to stabilize this region of high erosion. Stabilizing the beach slope will result in reduced siltation in nearshore waters, thus may serve to enhance water quality. The Department of Health had no comments.

(8) Is individually limited but cumulatively has considerable effect upon the environment or involves commitment for larger

actions.

53. Shoreline protection structures have the potential to exacerbate erosion on adjacent properties, leading the neighboring property owner no choice but to construct a similar structure. The boundary to the east does not require shoreline protection because the property is protected by a seawall which was built prior to the construction of the Sugar Cove Condominiums.

(9) Substantially affects a rare, threatened, or endangered species, or its habitat.

54. There are no known rare, threatened, or endangered species or habitat within the project area.

(10) Detrimentally affects air or water quality or ambient noise levels.

55. As discussed earlier, construction activities would result in short term nuisance to adjacent property owners and beach goers, however mitigative measures will be used as outlined. Stabilizing the beach slope is expected to have a beneficial effect of minimizing siltation to nearshore waters in the long term. The Department of Health had no comments.

(11) Affects an environmentally sensitive area such as a flood plain, tsunami zone, erosion prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

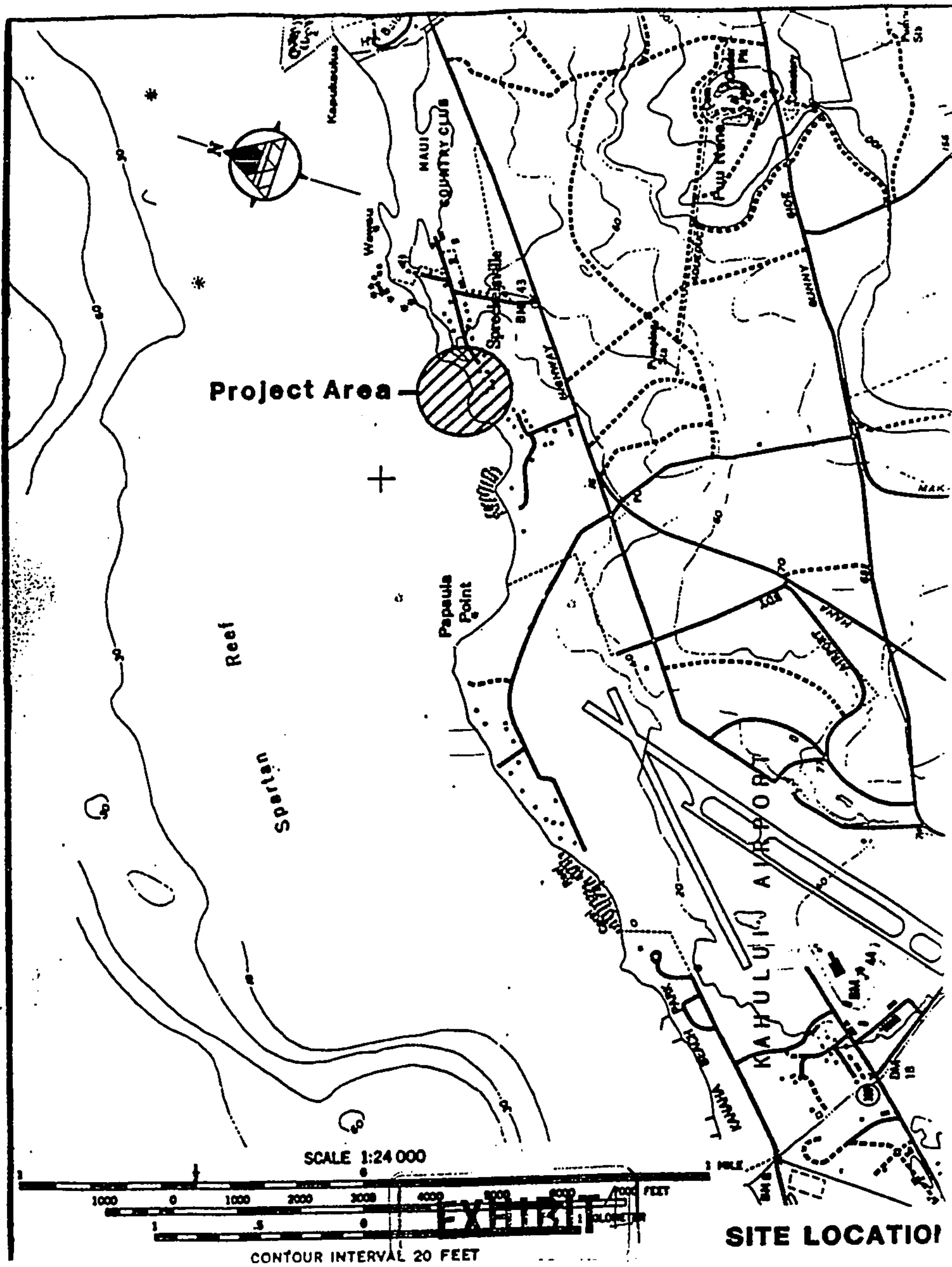
56. The Sugar Cove Condominium Complex is located within a tsunami inundation zone. The Hayashi beachwall is expected to improve on the high turbidity condition due to siltation from eroding clay at the shoreline when exposed. The nearshore substrate is only recently been exposed due to severe erosion in the area also contributing to the turbidity.

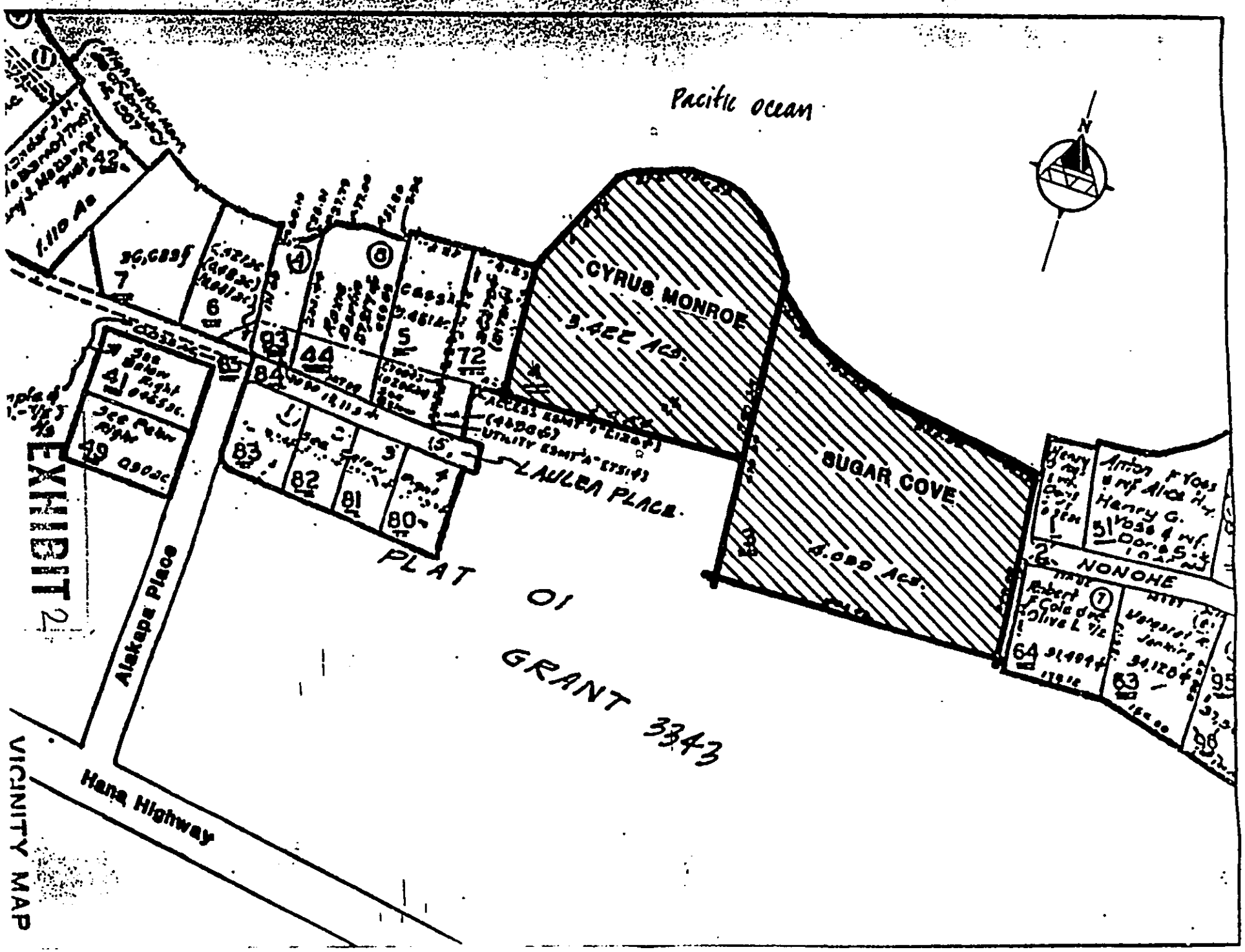
Conclusions of law

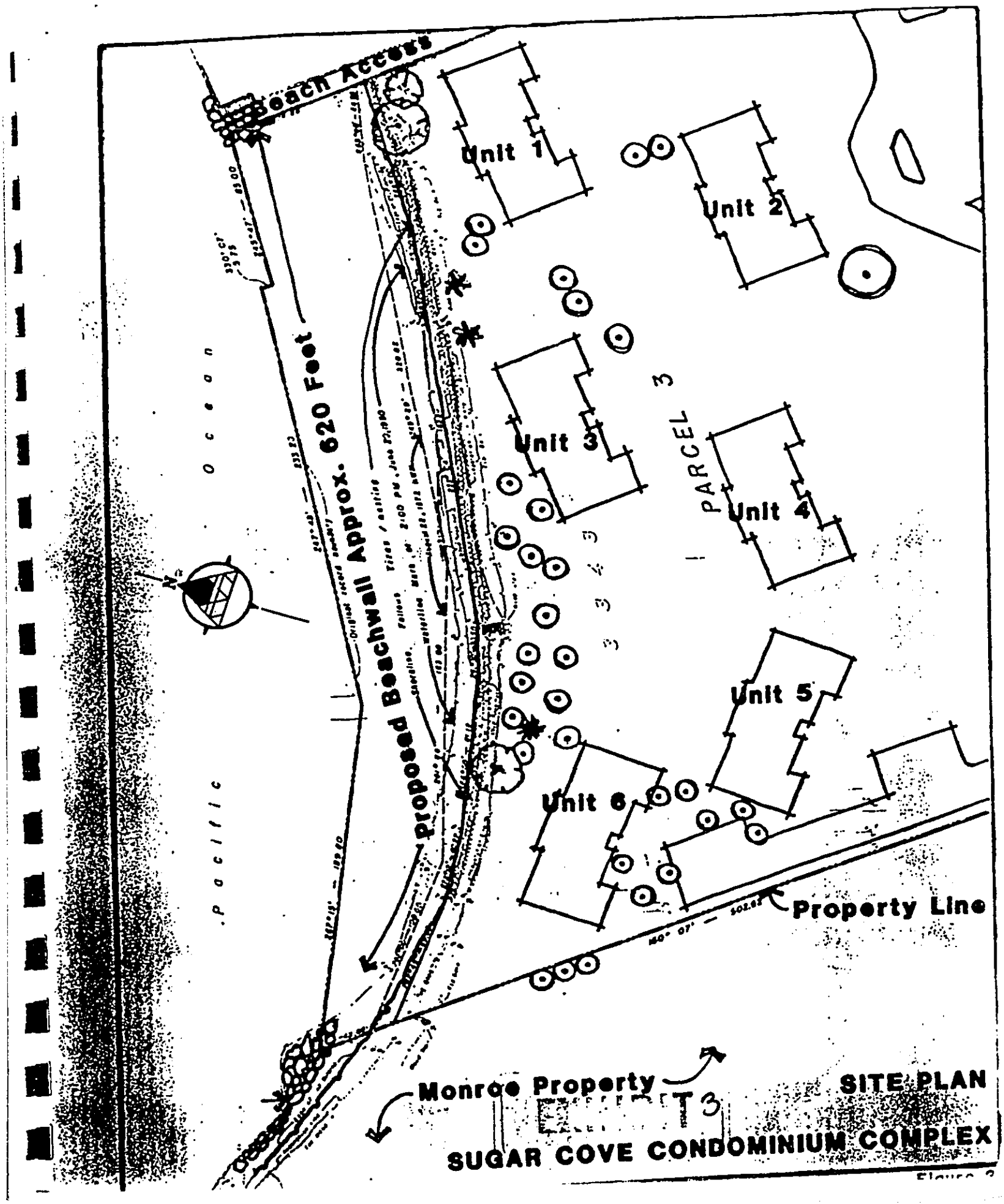
It is hereby determined that with the incorporation of necessary mitigation measures the proposed project will not have a significant adverse impact on the environment as defined by Chapter 343, Hawaii Revised Statutes, and the Environmental Impact Statement Rules of the Department of Health, State of Hawaii, and that an environmental impact statement is not required for the proposed project.

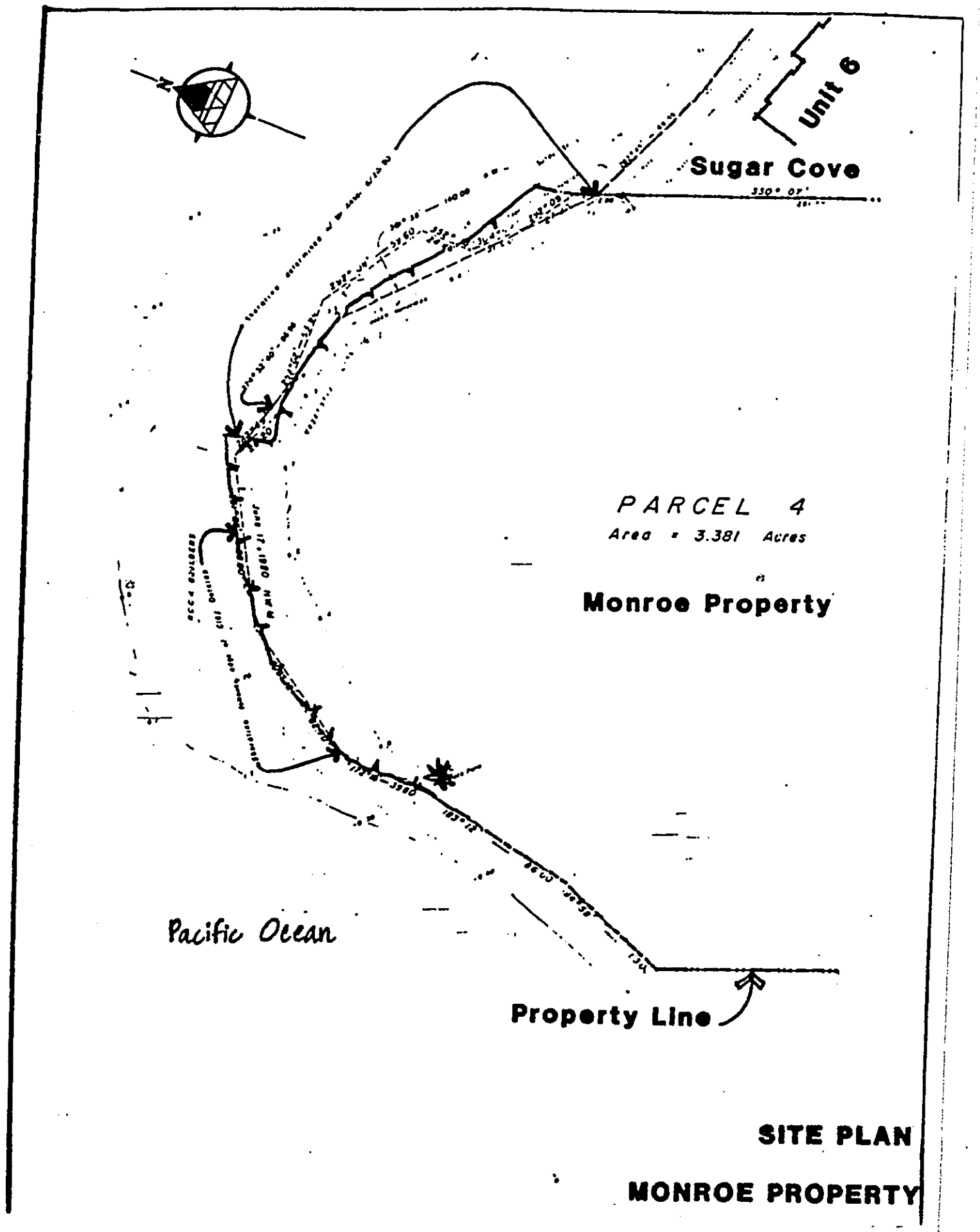
Determination

Pursuant to Section 11-200-11(C) of the Environmental Impact Statement Rules, this Report is hereby adopted as a Negative Declaration for the referenced project.


Project Area
N
MAUI COUNTRY CLUB
Reef
Spartan
Papaula Point
HIGHWAY
KAHULUI AIRPORT
SCALE 1:24 000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER
CONTOUR INTERVAL 20 FEET
EXHIBIT
SITE LOCATIO


Pacific ocean
N
CYRUS MONROE
3.422 Acs.
SUGAR COVE
3.088 Acs.
NONOHE
LAULEA PLACE
Alakapa Place
Hana Highway
PLAT 01
GRANT 3343
EXHIBIT 2
VICINITY MAP


Beach Access
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Unit 6
PARCEL 3
Proposed Beachwall Approx. 620 Feet
Property Line
Monroe Property
Ocean
Pacific
N
SITE PLAN
SUGAR COVE CONDOMINIUM COMPLEX



SITE PLAN

MONROE PROPERTY

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858-5440

March 13, 1992

'92 MAR 16 P1:31

REPLY TO
ATTENTION OF

Planning Division

Mr. Brian Miskae, Planning Director
Maui Planning Department
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Miskae:

Thank you for the opportunity to review and comment on the Environmental Assessment and applications for Special Management Area Permit and Shoreline Setback Variance for a shoreline revetment at the Sugar Cove Residential Condominium, Spreckelsville, Paia, Maui (TMK 3-8-02:03 and 3-8-02:04). The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. The proposed revetment requires a DA permit. A nationwide permit can be processed provided that a project-specific Water Quality Certification and Coastal Zone Management (CZM) concurrence are acquired. For more information, please contact Operations Division and cite the following file number which has been assigned to this project: NW92-037.

b. According to the Federal Emergency Management Agency's Flood Insurance Rate Map, Panel 150003-0195-B, dated June 1, 1991 (copy enclosed), the project site is located in Zone V23 (areas inundated by the 100-year coastal flood with velocity hazards and a base flood elevation of 17 feet above mean sea level).

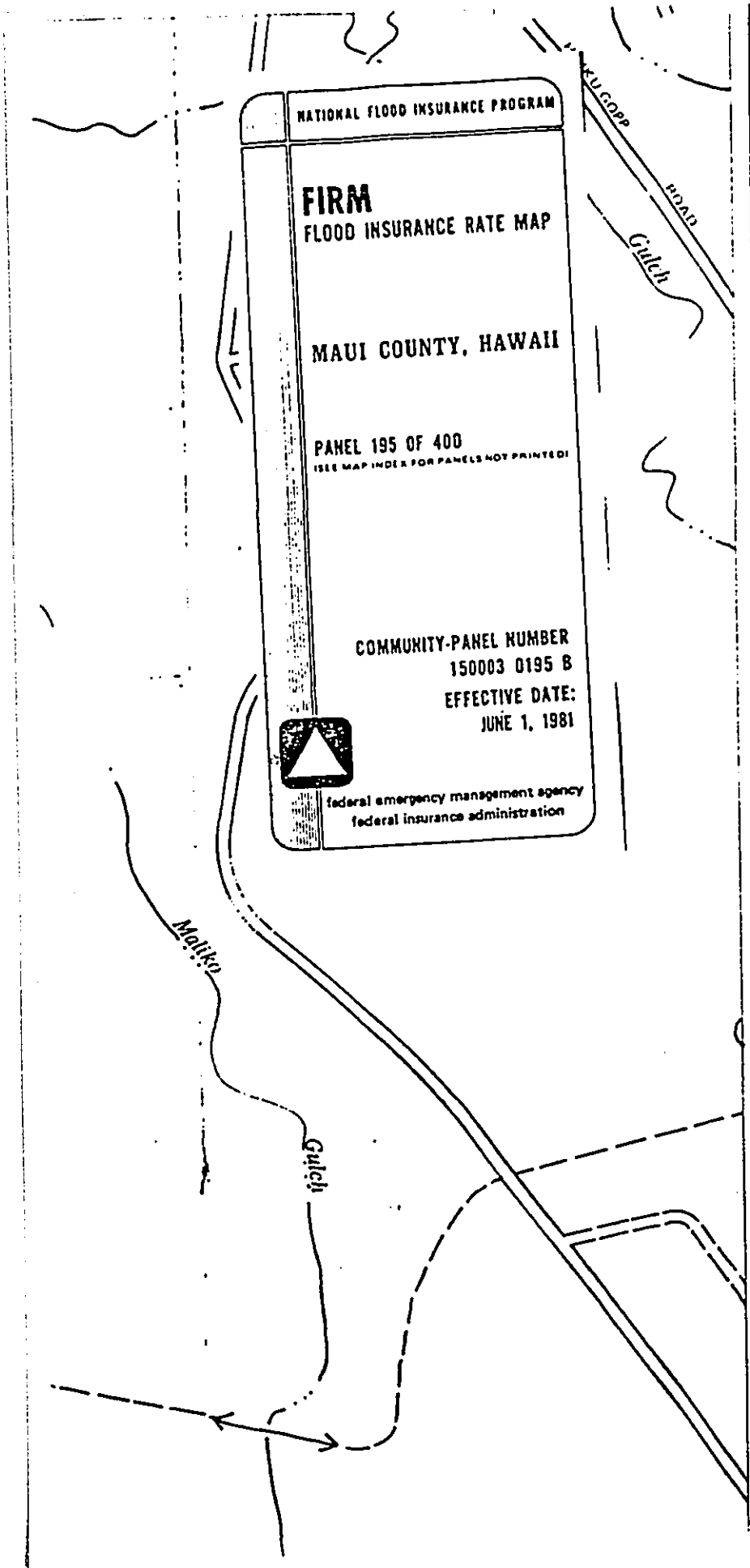
Sincerely,

C. Fujii

Kisuk Cheung, P.E.
Director of Engineering

losure

Exhibit 4



KEY TO MAP

500-Year Flood Boundary	
100-Year Flood Boundary	ZONE B
Zone Designations* With Date of Identification e.g., 12/2/74	50 DATE / 50 DATE
100-Year Flood Boundary	ZONE B
500-Year Flood Boundary	
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation In Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7×
Coastline Mile	M 20

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

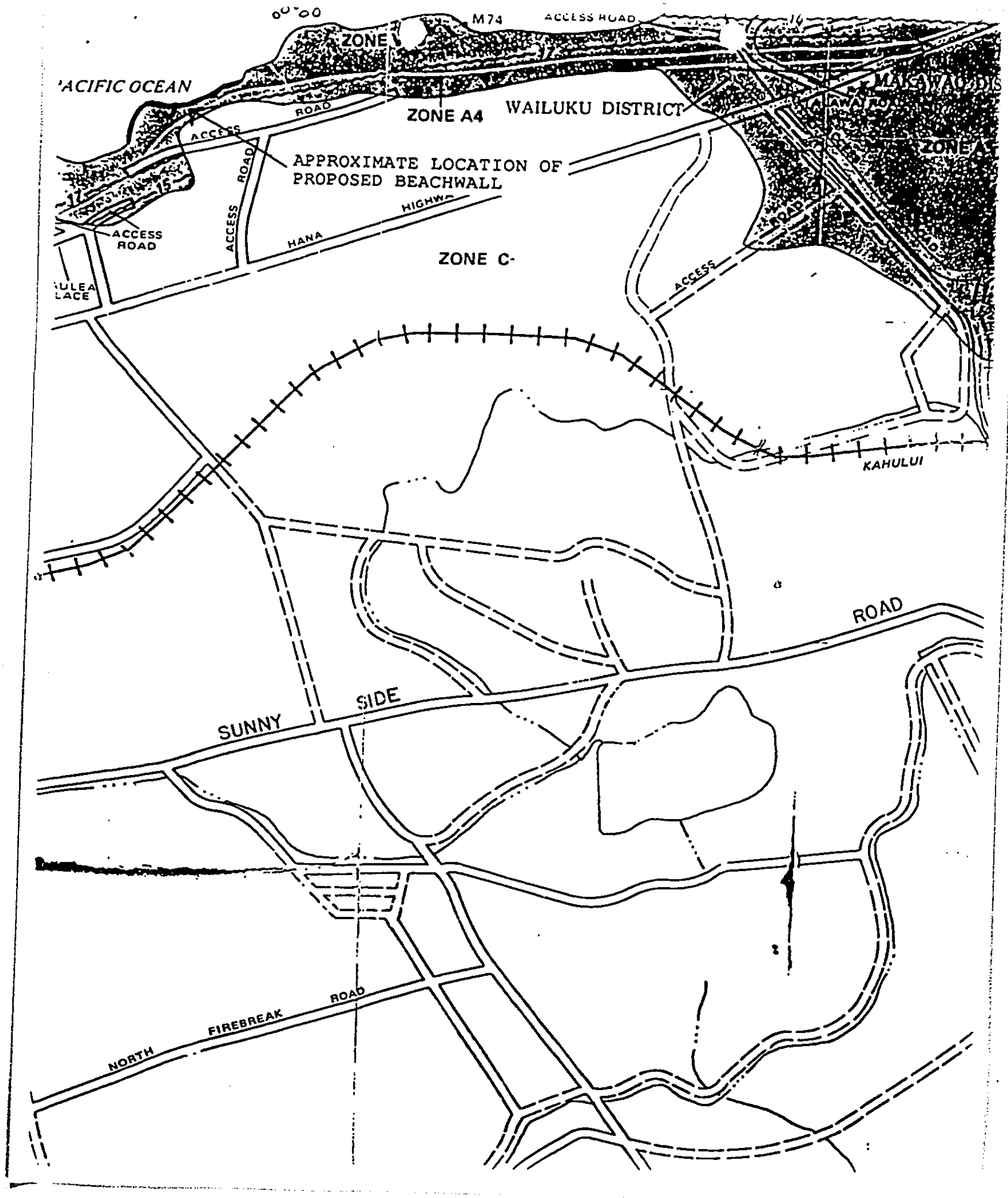
NOTES TO USER

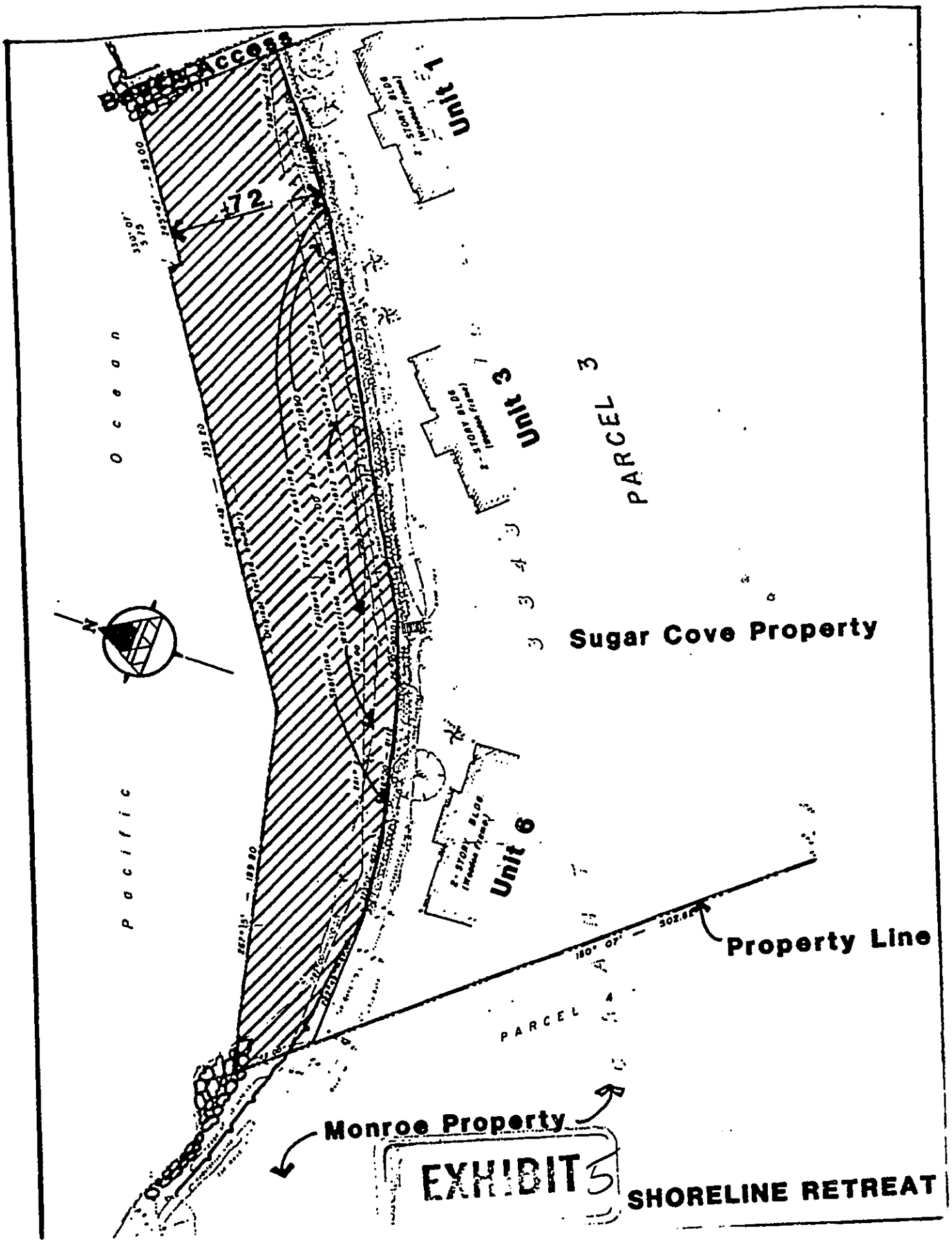
Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

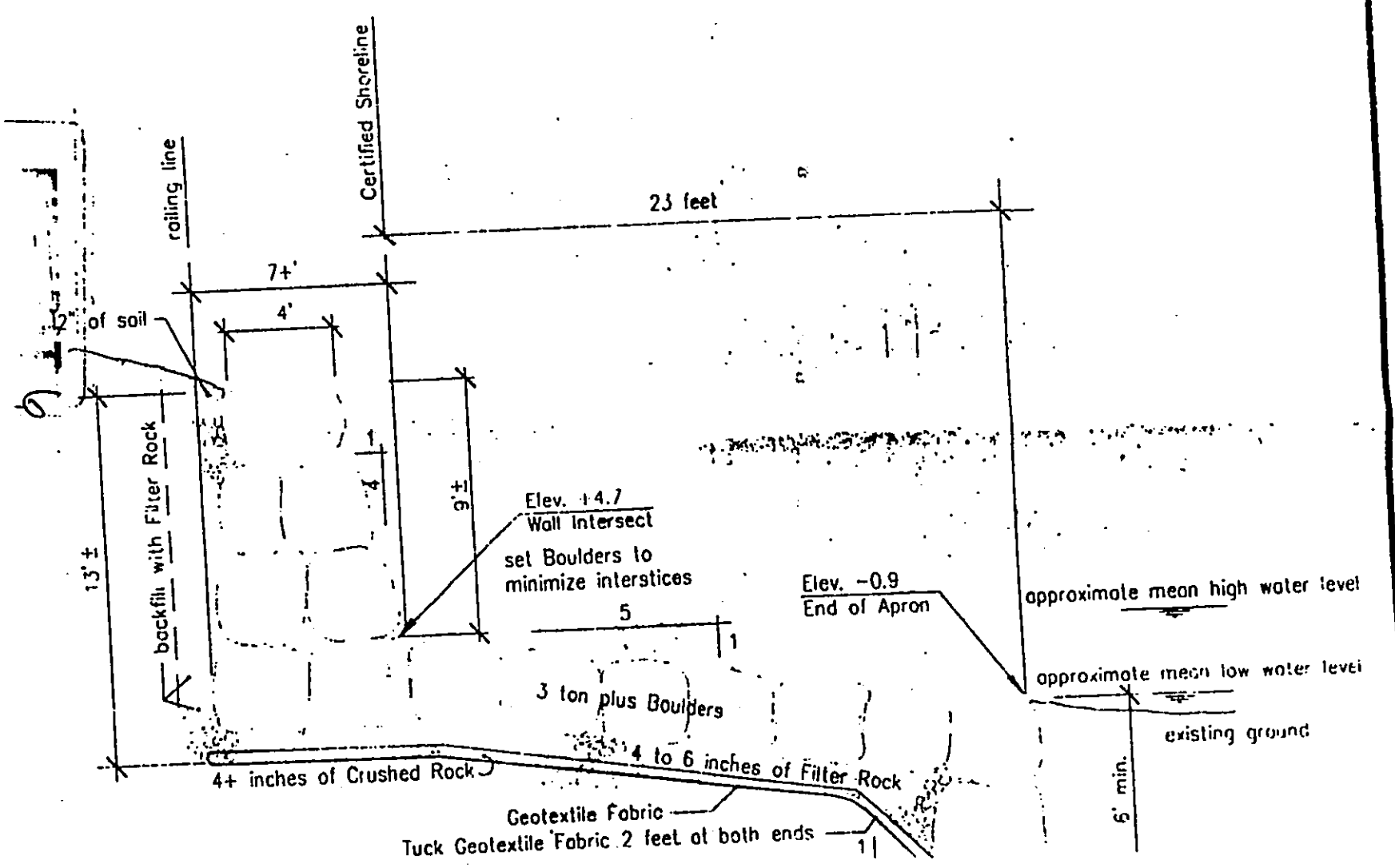
For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
DECEMBER 6, 1977
FLOOD HAZARD BOUNDARY MAP REVISIONS:


ZONE
M74
ACCESS ROAD
PACIFIC OCEAN
ROAD
ZONE A4
WAILUKU DISTRICT
ACCESS
APPROXIMATE LOCATION OF
PROPOSED BEACHWALL
ACCESS ROAD
HIGHWAY
HANA
ACCESS
ROAD
ZONE C-
ACCESS
KAHULUI
ROAD
SUNNY
SIDE
NORTH
FIREBREAK
ROAD


ACCESS
Unit 1
Unit 3
Unit 6
PARCEL 3
PARCEL 4
Ocean
Pacific
+72
Sugar Cove Property
Property Line
Monroe Property
EXHIBIT 5
SHORELINE RETREAT

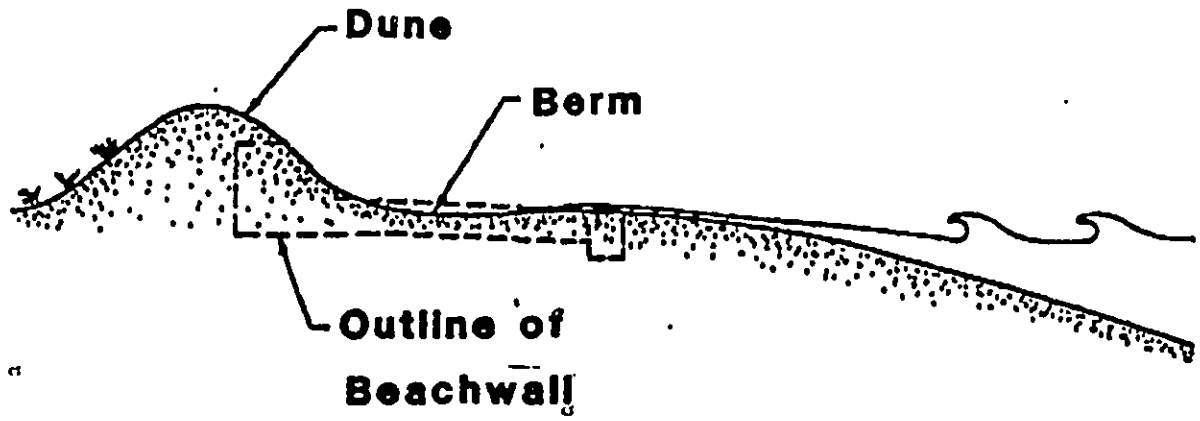
PARCEL 3 – Sugar Cove
Condominium Assoc. of Owners

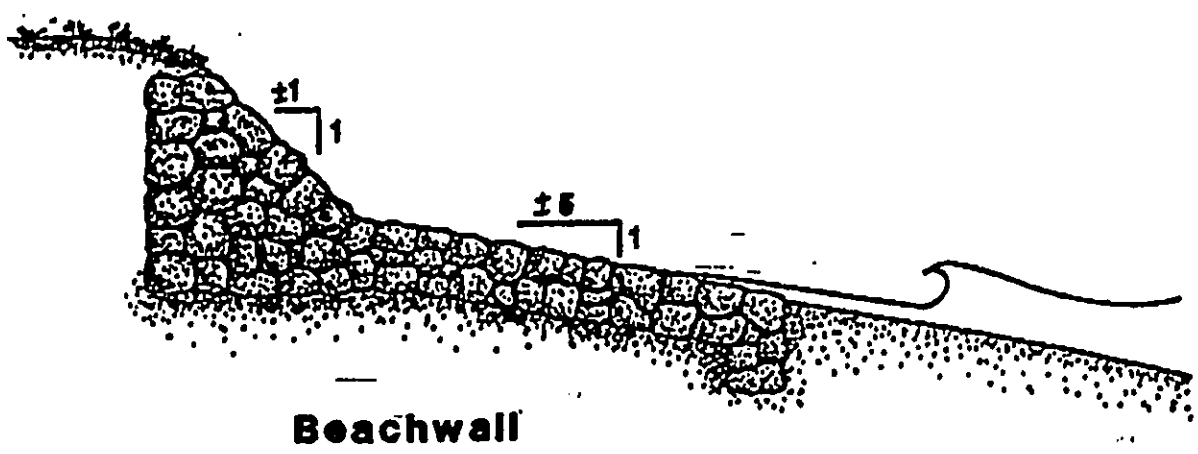


Beachwall for
SUGAR COVE

DATE OF DRAWING
NOV 5, 1991
PREPARED BY:
RJR
CHECKED BY:

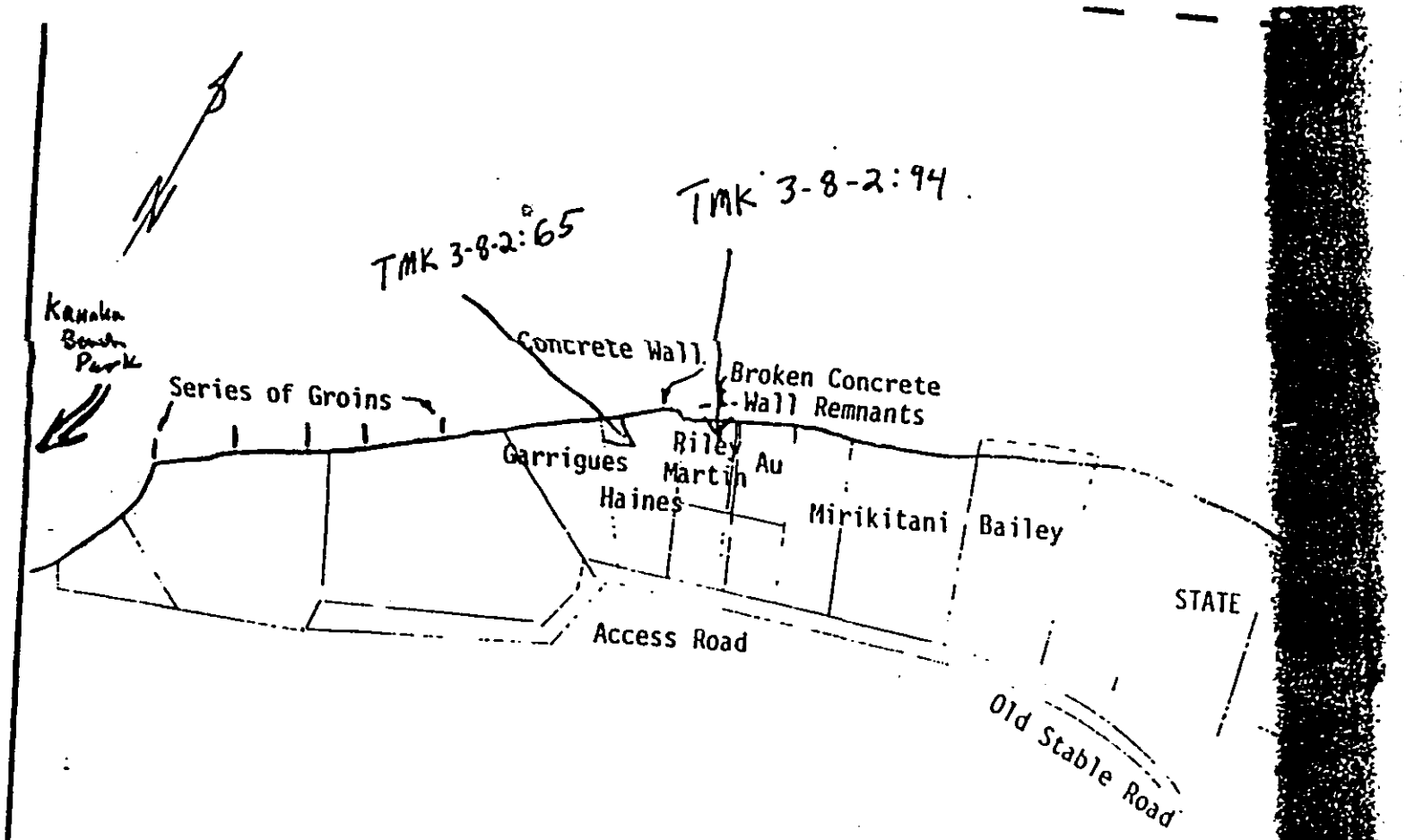
Not to scale





HAYASHI BEACHWAL

Figur



Scale: 1 inch = 430 feet.

EXHIBIT —

PROJECT No.	R 77701
PROJECT	Shoreline Protection for Jim Riley & Peter Martin
LOCATION	Specklesville, Maui

SRK-ROB

LOCAT

DATE October [illegible]

DRAWN

HONOLULU OFFICE:
SUITE 2900 MAUKA TOWER
GROSVENOR CENTER
737 BISHOP STREET
HONOLULU, HAWAII 96813
POST OFFICE BOX 484
HONOLULU, HAWAII 96809 0484
TELEPHONE (808) 547-5400
CABLE: LOIO
TELEX 7238523
FACSIMILE (808) 523-1820

LIHUE OFFICE:
WATUMULL PLAZA
4334 RICE STREET, SUITE 202
LIHUE, KAUAI, HAWAII 96766-1388
TELEPHONE (808) 245-4705
FACSIMILE (808) 246-3277

CASE & LYNCH
ATTORNEYS AT LAW
A PARTNERSHIP INCLUDING LAW CORPORATIONS
THE KAHULUI BUILDING
33 LONO AVENUE, SUITE 470
KAHULUI, MAUI, HAWAII 96732-1668
TELEPHONE: (808) 871-8351
FACSIMILE (808) 871-0732

FOUNDED 1888

W. O. SMITH (1848-1928)
C. DUDLEY PRATT (1900-1970)

HILO OFFICE
CASE & LYNCH BUSINESS CENTER
480 KILAUEA AVENUE
HILO, HAWAII 96720
TELEPHONE (808) 961-8611
FACSIMILE (808) 961-4962

KONA OFFICE:
HANAMA PLACE
75-5706 KUAKINI HIGHWAY, SUITE 101
KAILUA-KONA, HAWAII 96740
TELEPHONE (808) 329-4481
FACSIMILE (808) 329-4506

KILAUEA OFFICE:
KONG LUNG CENTER
KILAUEA LIGHTHOUSE ROAD
KILAUEA, KAUAI, HAWAII 96754
TELEPHONE (808) 828-2550
FACSIMILE (808) 828-2154

'92 FEB 10 P2:30

February 6, 1992

Mr. Brian Miskae
Director
Department of Planning
County of Maui
250 High Street
Wailuku, Hawaii 96793

Re: Sugar Cove Residential Condominium, Spreckelsville, Maui TMK 3-8-02:3 and 4.

Dear Mr. Miskae:

On December 12, 1991 our office filed an application for an Environmental Assessment and Shoreline Setback variance for the Sugar Cove Condominium at Spreckelsville TMK 3-8-02:3 and 4. In September, 1991 our office filed with the Department of Land and Natural Resources an Environmental Assessment and application for a Conservation District Use permit to construct the revetment project on conservation land. The Board of Land and Natural Resources is interested in expediting our application process at the next hearing on Maui in March. We are told by the department staff that the Board maintain a policy that the Planning Commission should act on the subject application before the Board takes its action. Because of the seasonal nature of the shoreline and tides at the Sugar Cove Condominium there is a limited period of time during which the revetment could be constructed. It has been forecasted that the revetment can be built between June and August each year. The Sugar Cove property continually loses beach front property and concern has recently been expressed by property owners that the intrusion may impact the integrity of building structures.

For this reason we are asking your assistance in expediting the permit processing for this project. If the Planning Commission can act on it in March we may be able to obtain Land Board

EXHIBIT 9

MEMBER OF THE PACIFIC RIM ADVISORY COUNCIL WITH MEMBER OFFICES IN: ANCHORAGE, AUCKLAND, BANGKOK, BRISBANE, BOMBAY, BOSTON, CALCUTTA, DALLAS, HONOLULU, HOUSTON, JAKARTA, KUALA LUMPUR, LOS ANGELES, MANILA, MELBOURNE, MONTREAL, NEW DELHI, PORTLAND, SAN DIEGO, SAN FRANCISCO, SEATTLE, SEOUL, SINGAPORE, SYDNEY, TOKYO, TORONTO, VANCOUVER, WASHINGTON D.C., WELLINGTON.

action during the same month and then start our construction plans for the project. This schedule would allow the Sugar Cove to build during the Summer of 1992. Otherwise the construction project would have to wait another year with the risk of loss of property at the Sugar Cove.

Your consideration in the matter is greatly appreciated.

Very truly yours,

CASE & LYNCH

PAUL R. MANCINI

PRM:bll/4060j [6322-2]

xc: John Arisumi
Lee Schulenberg

LINDA CROCKETT LINGLE
Mayor
GEORGE N. KAYA
Director
CHARLES JENCKS
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
LAND USE AND CODES ADMINISTRATION
250 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

Land Use and Codes Administration
EASSIE MILLER, P.E.
Wastewater Reclamation Division
RALPH NAGAMINE, P.E.
Engineering Division
BRIAN HASHIRO, P.E.
Solid Waste Division
MELVIN HIPOLITO
Highways Division

March 30, 1992

'92 APR -1 P4:05

MEMO TO: Brian Miskae, Planning Director

F R O M: George N. Kaya, Director of Public Works

SUBJECT: Special Management Area Permit Application for Sugar Cove Revetment Wall at Spreckelsville, Maui, TMK:3-8-02:3 and 4 92/SM1-004; 92/SSV-001; 92/EA-001

We have reviewed the above request and offer the following comments:

1. That the architect and owner is advised that the project must conform to Ordinance No. 1145, pertaining to flood hazard districts.

2. The design of shoreline structures should promote the natural replenishment of beaches if and when beaches are eroded due to seasonal conditions. The proposed shoreline structure incorporates a two slope design, 5(H):1(V) slope for the area 23-feet seaward of the certified shoreline and a 1(H):4(V) slope for the area landward of the certified shoreline. This department has the following concerns on the proposed design:

   a. The seaward portion of the revetment will extend 23-feet from the certified shoreline to an elevation of -0.90 feet mean sea level (MSL). The footing of the most seaward portion of revetment will be at approximately -8.0 feet MSL. Portions of the revetment will be submerged. We request the submittal of the design criteria and rationale which determined the length and slope of this section of the revetment.

   b. The 1(H):4(V) sloped portion of the revetment appears too steep to promote sand accumulation. Near vertical shoreline structures deflect the power of waves in such a way that it scours the sand at the foot of the structure and prevents the natural accumulation of sand on the shoreline. It is recommended that the slope be modified to better facilitate sand accumulation.

EXHIBIT 10

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3. That the developer shall submit a solid waste management plan to include the following:

   a. The owners and their contractors shall implement solid waste reduction, re-use and recycling programs to reduce the amount of solid waste to be disposed of at the County landfills.

   b. All yard debris shall be composted and re-used on their landscape plantings.

   c. Alternative means of disposal of grubbed material and rock shall be utilized other than disposed of at the County landfills.

   For additional information, the developer is requested to contact the Solid Waste Division.

AS:mht

cc: Engineering Division
Solid Waste Division

OFFICE OF STATE PLANNING

Office of the Governor

MAILING ADDRESS: P.O. BOX 3540, HONOLULU, HAWAII 96811-3540
STREET ADDRESS: 250 SOUTH HOTEL STREET, 4TH FLOOR
TELEPHONE (808)587-2846, 587-2800

FAX: Director's Office 587-2848
Planning Division 587-2824

'92 MAR 17 A9:13

Ref. No. P-2848

March 9, 1992

The Honorable Brian Miskae
Planning Director
Planning Department
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Miskae:

Subject: Shoreline Setback Variance and Special Management Area Use Permit Applications (92/EA-001, 92/SSV-001, 92/SM1-004) for Sugar Cove Revetment at Spreckelsville, Maui, Hawaii

The proposed project involves the construction of a 620-foot shoreline stabilization structure which extends into the Conservation District seaward of the shoreline. The proposed structure has a compound slope configuration. The lower section will extend 23 feet makai of the shoreline and have a slope of 1V:5H. The upper section, mauka of the shoreline, will have a slope of 4V:1H. The proposed structure will replace existing tire gabions. We have reviewed the subject project relative to the Hawaii Coastal Zone Management (CZM) Program and have the following comments.

It is a policy of the CZM Program to provide adequate, accessible, and diverse recreational opportunities by providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value. Further, we advocate the protection of beaches for public use and recreation. Protection of beaches is enhanced by limiting private shoreline stabilization structures to areas mauka of the shoreline, unless they result in improved aesthetic and engineering solutions to erosion and do not interfere with existing recreation and waterline activities. Further, Section 205A-46, Hawaii Revised Statutes, only allows for variances for private facilities that fix the shoreline provided that the authority imposes conditions to prohibit any structure seaward of the existing shoreline unless it is clearly in the public interest.

We are concerned with the design of the structure. The encroachment into the area seaward of the shoreline may have serious adverse impacts on the beach and is contrary to the intent of the shoreline setback provisions. Further, the proposed encroachments into the Conservation District may inhibit access along the shoreline of this beach. Therefore, the proposed project is inconsistent with the CZM recreational resources policy.

In addition, the steep slope of the mauka section may not allow for the accumulation of sand. We do not concur with the applicant that because a similarly designed structure in Kaanapali resulted in sand accumulation, that the same will occur at the project site. The Kaanapali area is not influenced by the same wave types and coastal currents as are present at the project site. Further, two University of Hawaii reviewers favor an alternate design in which the upper portion of the structure is less steep than presently proposed (Expanded Shoreline History and Photograph Analysis, April 1991).

We recommend that the subject applications be denied for this proposed project.

Thank you for the opportunity to comment. Please feel free to contact the CZM Program at 587-2877 if there are any questions regarding this matter.

Sincerely,

Harold S. Masumoto
Director

JOHN WAIHEE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793

'92 MAR -4 P4:02

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

PAUL E. HOFFMAN, M.D., M.P.H.
DISTRICT HEALTH SERVICES ADMINISTRATOR, M.D.

March 2, 1992

Mr. Brian Miskae
Director
Department of Planning
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

Dear Mr. Miskae:

Subject: Sugar Cove Revetment, 92/EA-001, 92/SSV-001, 92/SM1-004
TMK: 3-8-02: 03 and 04, Paul Mancini

Thank you for the opportunity to review and comment on the subject application. We have no comments to offer at this time.

Sincerely,

David H. Nakagawa

DAVID H. NAKAGAWA
Chief Sanitarian

EXHIBIT 12

JOHN WAIHEE
GOVERNOR

RUSSEL S. NAGATA
COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

SURVEY DIVISION
P. O. BOX 119
HONOLULU, HAWAII 96810

FILE NO. _____

February 24, 1992

TRANSMITTAL

TO: Mr. Brian Miskae

ATTN.: Mr. Clayton Yoshida

SUBJECT: I. D. No. 92/EA-001, 92/SSV-001, 92/SM1-004
TMK: 3-8-02:03 and 04
Project Name: Sugar Cove Revetment
Applicant: Paul Mancini

REMARKS: The subject proposal has been reviewed and confirmed that no Government Survey Triangulation Stations and Benchmarks are affected. Survey has no objections to the proposed project.

Paul T. Nuha

PAUL T. NUHA
State Land Surveyor

EXHIBIT 13